

THE CULTIVATOR,

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

"AGRICULTURE, AT ONCE THE CAUSE AND EVIDENCE OF CIVILIZATION."

CULT. VOL. VII—No 3.

ALBANY, N. Y. MARCH, 1840.

CULT. AND FAR. VOL. I—No. 3.

PUBLISHED MONTHLY,

BY JESSE BUEL & Co. PROPRIETORS,
Office No. 7 Exchange Buildings, Second Floor.

TERMS—ONE DOLLAR per annum—Six copies for \$5—
the money to be remitted in advance, free of postage. A
commission of 20 per cent will be allowed to Agents who ob-
tain 25 or more subscribers, and 25 per cent to those who ob-
tain 100 or more. All subscriptions to commence with a
volume. (For special Agents, see last page.)

THE CULTIVATOR.

WILLIS GAYLORD & LUTHER TUCKER, EDITORS.

¶ The continuation of Durant's Report, the Dictio-
nary of Agricultural Terms, and several papers, communi-
cations, &c., which we had intended for this month, have
been omitted, to give our readers the early proceedings
of the State Agricultural Society and Convention, at Al-
bany, on the 5th of February. These proceedings will be
found of interest; and the Eulogy of Mr. Dean, on Judge
Buel, who may be considered the founder of the Society,
will be read with a feeling of regret proportioned to the
loss sustained by the agricultural community, in the death
of that eminent individual.

¶ We are gratified at being able to assure our readers
and friends of the fair prospects of success, equal to our
most sanguine expectations. Notwithstanding the iron
pressure of the times, our subscription list exceeds by sev-
eral thousands that of any previous year in the same peri-
od of time; and there is every indication that our endeav-
ors to deserve, will be rewarded with an ample, if not
an unprecedented support, from the farmers of our broad
and rich country. We are pleased to learn that our
brethren of the agricultural press, generally, are on the
full tide of successful experiment; a gratifying proof that
the usefulness of such journals is beginning to be appre-
ciated. The great addition of new correspondents to our
list, and the continued favors of the former ones, gives the
most ample guaranty that the friendly feelings cherished
by the agricultural community toward this journal, have
not decreased; and that its high eminence, in this respect
at least, will be fully sustained.

Census of Agriculture in the United States.

We are happy to perceive that this important subject
has been taken up in the proper quarter, and that we are
at last to have such an enumeration of the agricultural
products of this country, as will furnish some safe esti-
mate of the quantity produced, and the districts in which
they are grown. In reply to some suggestions made by
us on this subject, Mr. Deberry, the chairman of the com-
mittee of Agriculture, has kindly forwarded us a copy of
the instructions for the use and direction of the marshals
and their assistants, from which we find that the following
series of inquiries are to be propounded to every farmer.
Although there are some products it would be perhaps de-
sirable to have introduced into this list in order to render
it complete, yet it contains all the most essential items,
and if carried out in the spirit in which it seems to have
been conceived, it will be a collection of vast importance
and value to the country. Had such a census of our ag-
riculture been taken at every ten years, the comparison
of the tables at different times would be of the greatest in-
terest, as determining the increase in the product of our
fields, and the districts in which the greatest fluctuations
have taken place.

We have one suggestion to make in regard to this
matter, which we consider of very great importance.—
It is this. Let every printer of a newspaper in the
country, and all in the cities that print journals for dis-
tribution in the country, give a place to the questions
which we copy below, and which will be propounded to
every farmer in the United States. As it is to be hoped
that there are few or no farmers who do not receive
some journal, agricultural or otherwise, such a course
would be the means of bringing the subject to their no-
tice, and enable them to prepare their answers with
greater correctness than they might otherwise be able
to do. If every farmer who receives a copy of these
interrogatories, would at his leisure sit down, and write
against each one the proper reply, not only would the
labors of the marshals be greatly expedited, but, which
is of more consequence, a greater degree of accuracy
would be secured. The marshals will commence in June

next, and proceed through their districts as soon as con-
sistent with accuracy. The interrogatories refer to the
crops of 1839, and to the products of that year must the
answers relate.

AGRICULTURE—INTERROGATIONS.

What is the number of your horses and mules?
How many neat cattle have you?
How many sheep?
How many swine?
What is the estimated value of your poultry of all kinds?
How many bushels of wheat did you grow in 1839?
How many bushels of barley?
How many bushels of oats?
How many bushels of rye?
How many bushels of buckwheat?
How many bushels of Indian corn?
How many pounds of wool?
How many pounds of hops?
How many pounds of wax?
How many bushels of potatoes?
How many tons of hay?
How many tons of hemp and flax?
How many pounds of tobacco?
How many pounds of rice?
How many pounds of cotton have you gathered?
How many pounds of silk cocoons?
How many pounds of sugar?
How many cords of wood have you sold?
What is the value of the products of your dairy?
What is the value of the products of your orchard?
How many gallons of wine have you made?
What is the value of your home-made or family goods?

As intimately connected with these, may be added
those relating to horticulture—which are as follows:

What was the value of the produce of your market garden
in 1839?
What was the value of the produce of your nursery and
green house?

It is hoped that editors friendly to the cause of ag-
riculture, or who have readers in the agricultural dis-
tricts, will give a place to the above interrogations, and
invite the attention of those interested, that they may be
in readiness with their replies. Let the first effort for an
agricultural census of the United States be met in a
manner that shall ensure the desirable accuracy of the
measure.

Working and Training Oxen.

The comparative profits of working horses or cattle on
farms, has excited much attention and discussion on both
sides the Atlantic; and as was to have been expected, has
been answered as the experience or the prepossessions of
the parties have dictated. In some few instances the ad-
vantages have been determined in favor of the horse team,
but in most cases, oxen, all things considered, have been
found preferable for farm labor. In the agricultural sur-
veys made of the English counties, such as Berkshire,
Sussex, and Hereford, and West Lothian in Scotland, we
find the results of many experiments intended to elucidate
this subject, made with great care, the various items of
first cost and expense of keeping, &c. being detailed with
great minuteness.

The general result would seem to be, that oxen cost
less at first; that the annual expense for harness, farriery
and food, is less for oxen than for horses; that they per-
form more work in proportion to their annual cost; that
they increase in value from the beginning of working;
are worth more at last than at first, going at last to the
butcher, while the horse is good only for his skin. The
ox is also much less liable to disease or accident than the
horse, and if an accident does occur it rarely entirely de-
stroys his value.

On the other hand it may be urged in favor of the
horse, and very justly, that if more expensive, their work is
performed generally better, and always more expeditious-
ly; that they are more fit for use on roads or to encounter
bad weather; that they suffer less from extraordinary ex-
ertion than oxen, and they are applicable to many pur-
poses for which cattle are unfit.

Some few instances are on record, in which cattle
have been able to work against horses on a farm, team
for team, but every farmer is aware that such a result
cannot be calculated upon with any confidence. On the
contrary nearly double the number of oxen will be re-
quired to accomplish a given piece of work, than of
horses. Mr. Billingley, in the Minutes of Agriculture,
has entered into a minute estimate of the comparative
profit of ox and horse labor, and finds that while it re-
quires eight oxen to do the work of five horses, the
balance of cost and expense, would be from twelve to
fifteen dollars in favor of the ox teams per annum. Ac-
cording to a calculation in the Lothian Report, made
from many years experience on an extensive farm,
where several teams of both cattle and horses were con-
stantly employed, three oxen were found equal to a pair
of horses at every kind of farm work, and the balance
in favor of oxen in four teams for twelve years, was about

two hundred and thirty dollars. In the North Wales Re-
port, an Anglesey farmer, who says he worked twelve hor-
ses and twenty oxen during three years, and performed an
equal quantity of work with that number of teams, states
the difference in favor of the oxen, during that time, at
236*l.* or \$1,047.

Thus it seems that for actual labor on the farm, there is
a decided profit in using oxen; yet still the farmer will
find horses indispensable, particularly on the wheat farms
of this country, and on those that are at some distance
from market. In making the comparison between horses
and oxen for farm labor, the English farmer leaves out one
of the most important items in the reckoning, so far as
the American farmer is concerned, and that is the greater
capability of the horse to endure heat. Here, during the
intense heats of our summers, when a large portion of farm
fallows must be fitted for wheat, the ox is almost incapa-
citated for labor; there, the lower temperature prevents
any inconvenience from heat, except in rare cases. There
can be no doubt however, but that, on all farms where
summer fallowing for wheat is not extensively practiced,
or on such as are subjected to a course of mixed husband-
ry, and where of course most of the plowing is done in the
spring and fall, cattle might to a great extent be most be-
neficially substituted for horses.

There are multitudes of small farmers about the country,
with from 50 to 100 acres of land, who find it necessary
or convenient to keep more than one team. We believe,
that if such, instead of keeping two pair of horses would
replace one of them with a yoke of oxen, the business of
the farm would go on quite as well, and a respectable an-
nual profit from the substitution be realized. A pair of
horses may be necessary for work that the ox cannot so
well perform, such as road travel, or plowing in extremely
warm weather; but for the ordinary business of the farm,
the ox, with less danger from disease or accident, with less
expense for food, harness, &c. and with the certainty that
his value is not lessening materially from age, may, and
should take the place of the horse. It should also be re-
membered that cattle, as well kept as they usually are by
our farmers, will thrive the better for being moderately
worked.

The grand objection to the use of cattle is, they are
so slow; and this is so true in most cases, as to prevent
their use where a certain quantity of labor is to be per-
formed in a short or limited time. But why are they
so slow? The unbroken, unworked steer, walks about
as fast as the unbroken horse. Whence, then, the dif-
ference when put in the team? The steer is broke to the
yoke before his strength is matured, and compelled to
draw burdens which he is unable to move except at a
snail's pace; or he is put to labor with older cattle, bro-
ken down by the same treatment, and of course he is
compelled to adapt his movement to theirs. The powers
of the colt are rarely tested till he has reached maturi-
ty; light loads, easy carriages, and rapid driving fall to
his lot, and his whole treatment is as well calculated to
render him active, as that of the steer is to make him
dull and heavy in his movements. By breaking the
young steer to a lively step, by not tasking him so
severely as to render such a step impossible, and by ac-
customing him to activity in his movements so as to form
a habit, a thing every cattle breeder knows to be prac-
ticable, this complaint of slowness, might in a very
great degree be remedied. No animal shows the treat-
ment he has received in training more decidedly than
the ox, nor is there any that acquires good or bad habits
more quickly.

Every farmer, almost, has his peculiar mode of training
steers. Some break them in pairs alone; some use a
steady horse before them; some commence yoking them
while very young, and if treated gently, and not put to
labor too early, this is probably as good a way as any;
while some pair them with older and steadier animals.—
Working steers with oxen has this disadvantage, it is apt
to make them slow, while alone, or with a horse before
them, they acquire a lighter and more active step. In or-
der to induce steers to take kindly to their work, and to
accustom them to the yoke or harness, some of the best
foreign trainers of cattle adopt the method shown in the
cut below, (fig. 25,) which we have copied from the Brit-
ish Husbandry, vol. 2, p. 218.

According to this plan, the animal is harnessed, and
fastened by the collar to a cord or chain, which runs
in a ring, to which a weight is appended at the manger,
which he can approach or retire from at pleasure. An-
other weight is then hung to his traces by the centre of
the splinter bar, and rests upon the ground passing over
a pulley on which it moves. The weight to which the
steer is thus attached may be about a cwt. or more, and
he is then placed at the full length of his chain from the
manger, which is filled with provender, and he cannot
approach to eat without drawing the weight after him.
In this manner he soon accustoms himself to move the
load, and in the course of a fortnight he will probably be



[Fig. 25.]

tamed without farther trouble." By pairing them in this way, they are soon made to act together, usually without those refractory symptoms that frequently show themselves in steers under training.

Work for the Month.

Comparatively little can be done in the fields at this season of the year, but the good farmer will find March any thing but an idle month. He will find it perhaps the most critical month in the year for his cattle and sheep, and that additional care will be required as the season advances, termed by farmers between hay and grass. Instead of lessening the quantity of feed his animals receive, he will increase it, and bring to his aid the roots he may have on hand. Where the straw and hay fed out are very dry, sprinkling brine over them will cause the animals to eat such food more freely. The weak animals should receive particular care, as should also cows and ewes.

March is a good month to examine your orchards, to free them from moss and loose bark, and thus expose to destruction the multitude of insects that harbor in these places. Orchards do not receive the attention they deserve, from most farmers. Since the worth of the apple for animals has been ascertained, it is found that orchards are not the least productive part of the farm, even where none are used for cider.

Do not believe those who tell you that green wood makes the hottest fire, and is cheaper to burn than dry. A man who preaches such a doctrine usually gets his wood a jag at a time, has a smoking fire, and a scolding wife; two evils of no little magnitude to a man who loves to stay within doors on rainy days. But the woman in this case, if in any, is excusable; for common sense should teach a farmer to have his wood cut and drawn during the winter, that the March winds may carry off the moisture, and fit it for packing in his wood house.

The month of March is usually the one in which water courses require the most careful looking to, to prevent the change of their courses, the wash of plowed lands, or the covering of meadows with gravel and sand. Since draining has commenced in this country to some extent, those who have drains lately made and covered, should look to them, as surface water is apt, before the earth is properly settled in them, to find its way, and if allowed to run long will most certainly render the drain useless, by injuring the channel for the water, or filling it up with earth.

Sir Humphrey Davy observes, "that manures from animal substances in general require no preparation to fit them for the soil." Should you therefore be so unfortunate as to lose any of your animals, do not cast them into the highway to offend every passer by, or into the brook to be worse than useless, but cut it up and mix it with earth in such a manner, that the decomposition will not be too rapid, and the particles fully blended with the earth. Thus there need be no loss without some small gain. One of the worst signs in passing a farm, is to see the apple or peach trees around the dwelling, hung over with dead lambs, &c. &c. It proves two things—first, that the man has not attended to his creatures as he ought, through the winter; and secondly, that he does not understand making the most of his ill luck, or profiting by his own negligence.

A good supply of seed should be procured, assorted and labeled, that no loss of time, or mistake in planting, may occur. Attention to these small things will save much time and labor, and in a year the saving thus produced, amounts to a handsome sum. A farmer should always, as far as practicable, grow his own seeds, but where this cannot be, let him be careful to purchase where good ones can be had, and the character of the dealer is a sufficient guaranty that no inferior ones will be offered.

The spring of the year is the time in which the hardihood comparatively of different animals can be tested, when kept alike; and though it should form no part of the business of a good farmer to see on how little food he can keep, or rather starve his animals, still hardihood, if combined with other good qualities, is a property that will not be overlooked in the selection of stock.—Some animals will keep in good condition on the same food, that would barely keep others from starvation. March usually shows which are, and which are not such animals.

There are few fences in our country that do not require more or less repairs in the spring of the year. The common rail fence will be lifted or shoved from its proper place by the frost, and must be replaced; the winds of the winter will displace and throw down the boards or rails used, and these must be returned and secured; stone walls are the best of fences, but even these must be looked to, or the frost will in time play the mischief with them, giving them that "slanting" position, which is any thing but handsome or safe.

Where circumstances prevent meadows from being plowed, and dressing with manures is necessary, if it has not been done in the fall it may be done now, only more will be required. In dressing meadows, composts are better than other manures; and none that is not thoroughly rotted should be ever applied in the spring. Long manures so applied rise with the grass, prevent good mowing, and render raking difficult.

March is a good month for putting agricultural implements in order, and this is a point of the utmost importance in good husbandry. It is idle to expect good farming without tools capable of giving such a result; and when obtained they must be kept in order and preserved, or certain loss will ensue. Borrowing agricultural implements is a practice far too common; and one more honored in the breach than in the observance. Besides, the man who borrows much, spends more time in going after and returning them, than it would take to make or purchase them, and the farmer who has a proper feeling of independence, which a farmer should have, will give him more pleasure in using his own implements than those of his neighbor.

The Garden—Hot-Beds.

Within a few years, since horticulture has begun to take its proper place, not only as a science but as a part of the business of every farmer, (although it is yet very far from being fully appreciated,) hot-beds have been introduced as the best means, not only of furnishing a supply of early vegetables for the table, but also of starting such as it is desirable to have planted out as early as is consistent with safety from our late spring frosts. Of this class are cabbages, tomatoes, and indeed it well managed, and not brought forward so early as to require planting out before the temperature of the earth and air is fit for the purpose, almost every vegetable usually grown in the garden. Independent of the value that may be attached to the hot-bed as forwarding vegetables for the table, the manure used for the bed when mixed with the earth that is always upon it, forms an excellent and thoroughly rotted manure or compost for the garden, free from weeds and insects, the seeds and eggs of which have been destroyed by the process of fermentation and heating, the mass is obliged to undergo. It will be remembered that we are not now writing for the scientific gardener or horticulturist, but for the farmer; and in describing a hot-bed it must be one, both in its cost and construction, within the reach of limited skill and means. We, therefore, gladly avail ourselves of the following drawings and descriptions furnished by a friend, of one erected by himself, and which we know answered every end expected from such constructions.

"MESSRS. EDITORS—The size of the hot-bed must of course be determined by the number and size of the sash to be used in covering it, or by the quantity of early vegetables which it is desirable to grow in it. It may be made with three or five sashes, and of any desired width; but as a general rule it should not be wider than will admit of easily reaching the middle of the bed from the sides when the sash is removed. I made me one last year of three sashes which answered an excellent purpose, and which in some respects differed from any I have elsewhere seen. The expense, exclusive of the sash, was a mere trifle, and I think every farmer who constructs one, should it succeed as well as did mine, will, the first year of its use, feel himself well rewarded for his pains.

The glass that I used was the common seven by nine, and the sash, from outside to outside, was four and a half feet by three feet. There are no cross bars to the sash, as in window sash, but the glass is laid in the sash lapping on each other about half an inch in the manner of shingles, that the rain may run over their sloping surface readily. The bars of the sash should be made at least one and a half inch, and if three inches they will be none the worse, as a greater length and of course capacity will be given the bed, at a slight addition of expense. By making my sash wider than common, I thus gained nearly two feet in length of my hot-bed, a space sufficient to grow lettuce or radishes enough for a small family, and the sash is besides stronger and better every way. The sash received six panes of glass in length.

My hot-bed receptacle or frame, I made as follows: I constructed a box of boards, three feet high in front or the side facing the south, and three feet ten inches on the back or northern side. Pieces of scantling, placed in the corners, served to nail the boards upon, and flat stones or blocks were placed under the corners for it to rest on. On the top of this box four narrow strips of boards, about eight feet in length, were nailed one at each end, and the other two at equal distances for the sashes to lie or slide upon. These pieces had the same angle of inclination as the top of the box, and projecting back some four feet, the ends rested on scantling well set in the ground, thus supporting the sash when thrown back, as will be sometimes necessary to avoid too great heat, or to air and water the plants. I had so often seen the glass of hot-beds shivered, when the sash was merely laid on without proper security, that I adopted this course, which has proved entirely successful. To make a place for this sash to slide, on the top of the first narrow board I nailed another, a trifle thicker than the sash, but still narrower than the first board; and on this, but of the width of the under piece, was placed a thin board, thus making a slide for the sash, but from which it could not be removed

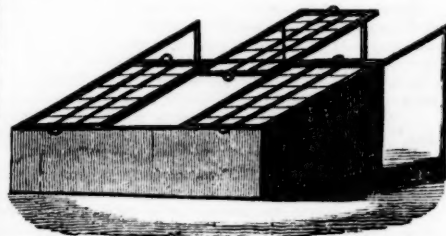
except at the upper or lower extremity. On the upper sides of each sash, at each end, I screwed a piece of leather doubled into a loop which greatly facilitated sliding, or removing them when necessary. When completed, the box was about ten feet in length by five feet in width.

For making a hot-bed, horse stable manure is generally preferred, as it ferments more equally than any other, and of course retains its heating properties longer.—Other stable manure will do, however, when horse manure can not conveniently be had. In making the bed, care must be taken to pack the manure as equally in every part as possible, as, if thrown in carelessly, it will ferment and settle unequally, cracking the earth, and in a great degree destroying the value of the bed. It is customary, after piling the manure, to let it remain some days before the earth is put upon it; it is supposed that thus a quicker fermentation is produced; I, however, put in my manure and covered it with rich garden mould the same day, which was about the fourteenth of March. When put in, the manure and earth was within eight or ten inches of the top of the box; the depth of earth put in might average ten inches. The mass however settled so considerably before fermentation ceased, that I shall this year leave less space between the earth and the glass, since it is well known that the less this space the greater the heat produced by the sun, and experience has proved that the settling of the earth in this case will usually be sufficient to prevent any contact between the plants and the glass, which they ought not to reach. In eight days after making my bed, I planted it with such seeds as I wished for early use, or for transplanting; but except the tomatoes and cabbages, I gained nothing by starting my plants, intended for removal, so soon, since the melons, cucumbers, peppers, &c. grew so fast, and became so large, that when the proper season for transplanting came, removal was fatal to most of them.

In planting a hot-bed with such things as are to be removed, it is a good plan to take pieces of clean turf, some four or five inches square, and putting these in the bed the grass side down, place the seeds on them and cover with fine mould to the depth of one and a half or two inches. The roots of the young plant spread in the turf, which partially decays, and if carefully removed, and in season, the plant will feel but little injury from the process.

Much of the profit to be derived from a hot-bed is depending on having the seeds when planted so arranged, that the successive crops shall not interfere with one another, or those intended for removal with those that remain. Thus, where there is but a single hot-bed, the plants permanently grown in them are usually lettuces, radishes, and cucumbers. It takes but a few stalks of the cucumber to fill a hot-bed, when the vines begin to run, and these if planted in separate places will not in the least interfere with the first crops of lettuce or radishes, and these but little, if the space is well managed, with the plants intended for removal. Last year I used half of my bed for starting some cuttings of the multicaulis, to make way for which I removed part of a luxuriant growth of radishes; yet on this limited space I grew two crops of the finest lettuce, a large supply of radishes, and after the transplanting of the multicaulis, by allowing the cucumbers to spread, I had not only cucumbers in plenty early, but the vines continued to produce those of good quality till late in the season. To those who are fond of seeing early vegetables on their tables, a bed of this description is indispensable; and after a long deprivation of fresh articles of this kind, heads of lettuce as large as small cabbages, and radishes an inch in diameter, are not apt to be looked upon with displeasure by any one, be he farmer or otherwise.

The annexed cut will give perhaps a sufficiently correct idea of the above described hot-bed, to enable any mechanic or farmer to construct one for himself. I have shown it with one of the sashes thrown back to illustrate the benefit of the slide. By means of the leather loops, the sashes are moved with the greatest ease, and there is no danger of their falling or being blown off by the wind.



[Fig. 26.]

To manage a hot-bed requires some little attention; the heat requires to be graduated to the plants, and while the fermentation is the most active, a few hours of sun on the glass will raise the temperature so much as to injure the plants. Ventilation by moving the sashes must be now resorted to, until the temperature is regulated. Particular attention must be paid to watering the bed, as on the action of the two agents, heat and moisture, the forcing power depends. The earth used should be rich fine garden mould, and a quantity of it should be kept by the bed to use occasionally about

the young plants. Stirring the earth about the plants in a hot-bed is as useful as in the garden.

Length.....	10½ feet,
Breadth.....	5 feet,
Height.....	3 feet in front.
Backside.....	4 feet.

It will thus be seen, that, by making the sash, frame and bars wider than usual, and by the use of slides, I have a length of bed of over ten feet; whereas, by using common sash and no slides, it would have been but a little over eight: a gain of no trifling consequence. It will be seen that by adding to the number of sash, the bed may be made of any desired length.

Yours, &c.

H. M. G.

Where sash can not conveniently be had, frames covered with oiled paper are said to have been used with success; but the glass is evidently far preferable, and if carefully used and housed when not wanted in the frame, sash will last many years.

There is also another way in which the heating properties of manure may be made available; and that is by piling quantities of it in the garden, either in a long or rounded form, and covering the heaps with earth to the depth of a foot or more. If these piles are not made so early as to bring plants started upon them within the reach of spring frosts they are very useful and may be adopted by every farmer. If the soil is naturally dry, it will be better to put in the seeds around their base, but if the soil is inclining to be retentive, they may be planted upon it in any place, without danger of suffering from drouth. We have in this way grown the finest of cucumbers, melons, and squashes; when those not so planted were an entire failure. Like that fermented in a common hot-bed, such manure is in the best order for spreading on the garden the next season, being fine, and free from seeds, &c.

Little in our climate can be done in gardening in March, unless in the warmest situations, where lettuces, peas, and those few things that may appear without the certainty of destruction from frost, may be put in for early use. As a general rule, however, it may be stated, that unless some forcing process is used, and protection given the plants, there is but little if any thing gained by commencing gardening too early. There must be warmth to assist or cause germination, and where this aid is but scantily supplied, though they start, they will be feeble, and lack the vigor and rapidity of growth seen under more favorable circumstances.

Inquiries, Correspondence, &c.

A communication on peat earth, peat ashes, &c. from Mr. Seely, was given in the first number of volume 6 of this paper; and Mr. S. was pleased to promise more on the same subject. A correspondent in Virginia, requests us to remind Mr. Seely of his promise, and we heartily concur in the request "that he will give us more information on these matters."

Kendall's Rotary Pump.

We would inform our correspondent, who has inquired the price of this pump—"its power in throwing a jet of water; and whether it can be applied to a succession of upright conduits, for the purpose of dressing meadow land with water or liquid manure;" that we have no information on these points, but should any of our friends be able to supply an answer, we shall be pleased to give it a place in the Cultivator.

Meadows, Pastures, &c.

Our friend from Conway, Mass. will find the queries he has propounded, more fully answered in a former volume of the Cultivator, than our limits will at present permit. He inquires first:

"How can pasturing be improved on broken rocky land that cannot be plowed?" By a top dressing of manure only.

2. "A large part of my mowing is moist cold land, natural to grass. Shall I feed my mowing? Shall I put 30 loads of manure to the acre, and crop twice, or spread it over more land, and crop once?"

Moist cold land must be drained, and then it will be warm dry land. In this state, a rotation of crops will enrich it. Better cultivate a little land well, than half farm a larger quantity. The first will enable you gradually to improve the whole; the last will deteriorate the whole.

"Will good lands hold their own, mowed once and not fed?"

They will; but to have good grass, it is necessary to occasionally put on grass seeds, and scarify the surface with a light harrow.

"Is lime of any use on moist cold lands?" No; drain first, and use lime afterwards.

"What would be the effect to plaster good dryish land without manure, crop once, and not feed any?" In time, the land would deteriorate. In our wheat districts, we plaster clover, and crop wheat for years in succession; but the land rests two years in clover pasture, on which sheep and cattle are fed—which, with the decaying clover, and roots, gives a heavy manuring to the soil. Plaster and lime, are not properly manures.

"Are ashes and plaster similar in their effects on land?" Not precisely, as the one owes its efficacy principally to the nitrate of potash it contains—and the other, to its sulphuric acid and lime. Both, however, are good, and the best on dry, sandy, or gravelly soils. Swamp mud, will produce generally little effect on land, unless first made

into compost, or used to absorb the liquid manure of the barnyard. In either of these ways, it is invaluable.

"How should the Rohan potato be planted?" Three feet each way between the hills, will do well; or they may be planted in drills. This is a vigorous plant, and requires more room than some other potatoes. It is better to cut them. Double the quantity can be produced from a bushel cut, than from one uncut. We have found one eye to a piece succeed well; and if planted in hills, three pieces is abundance of seed; in drills they are placed singly. [See Mr. Bement's communication in another column.]

"Where can I get the Brown corn?" In New-Hampshire, of Gov. Hill, editor of the Family Visitor; or of Mr. Cooke, of the Cheshire Farmer, we presume, as these gentlemen have this corn in their possession.

Cocooneries.

We have received from Mr. Benson, of Smyrna, Delaware, a description of his mode of feeding silk-worms on his patent revolving hurdle; and should think it a decided improvement on former methods, and worthy the attention of all in the silk business. Mr. Benson estimates the saving of expense in feeding a million of worms, at \$420, besides insuring better silk, and health to the worms. Mr. Benson has ample testimonials of the superiority of his patent hurdle, from gentlemen who have seen or tested its usefulness, among whom are the Governor of the State, Hon. Judge Clayton, &c. Mr. Benson may be addressed at Smyrna, State of Delaware.

Cooking and Steaming Apparatus.

"EDITORS OF THE CULTIVATOR—I have been looking about for a long time for some apparatus for steaming or cooking roots or other food, in an expeditious and cheap manner. Can not you give us something of this kind that will not cost too much either for the article itself, or what is of quite as much consequence, consume too much fuel in cooking. With the common potash kettle, the wood required costs us as much as the benefit derived from cooking. Coal would be economical here. New-Windsor, Orange co. J. R. CALDWELL."

The best and cheapest apparatus for steaming roots, &c. we have yet seen, is made, by putting to a box of the required dimensions for cooking or steaming, a bottom of sheet iron, and setting this box on an arch of brick or stone work, allowing about four inches of each side of the box to rest on the brick work. Let the box be made of inch and a half or two inch plank; the sheet iron with a double row of holes for nails, secured to the bottom of this, will be water tight, and a false bottom made of a board, and perforated with numerous holes, with cleats nailed on it to lie on the iron bottom, and prevent the roots burning on it, completes the steamer. We have used one made on this principle, for several years, and know of no plan which will cook food with equal rapidity and cheapness. Our steamer holds 15 bushels, and the fuel required is but a trifle.

Carpenter's Harvesting Machine.

Mr. T. F. Lambson, of Salem, N. Jersey, sends us the following queries in relation to the above machine, a cut of which appeared in the Genesee Farmer, of October, 1839. We are unable to answer them; but should be pleased to receive a reply from Mr. Carpenter, or any gentleman who has tested the machine.

"What would be the cost of the machine? What number of hands is necessary to attend it? Would the wheels of the car be likely to sink so deep into the earth as to render the machine useless when the ground is very wet? and lastly, could the threshers be dispensed with and the machine taught to mow?"

Gourd Seed Corn—Pheasants.

"Mr. Hagner, of Schuylkill Falls, Pa. inquires about the 'red cob gourd seed corn,' whether it is grown with us, and its general produce per acre," &c. This corn is not a favorite in the north, as it does not ripen sufficiently early to be secure against frosts; where it ripens, we have heard it spoken of as an excellent variety, and justifying the encomiums of Mr. Hagner.

Mr. H. also asks, "Do you, or any of your correspondents know where the golden pheasant fowl, and the silver pheasant, or creole fowl, originally came from? I have them both, and they are most prolific layers of eggs."

The golden pheasant, (*phasianus pictus*), is a native of China, and according to Tenemineck, is remarkable for the beauty of its plumage. He says another fine species of pheasant is found in China, called the silver pheasant, (*p. nycthemerus*). The genus *phasianus*, not only includes the pheasants proper, but also the domestic fowl. Their habits are similar.

Potatoes.

A correspondent in Tioga county, Pa. writes us as follows:—"Of the six eyes of the Rohan potato, you were so kind as to send me last year, four of them lived, and from the four hills, I obtained about one-third of a bushel of potatoes. Valuable as this variety promises to be, reckoning by the hill, my kidney potatoes beat them considerably—but then the kidneys had the advantage of one large potato in each hill. From different measurements, of a square rod, I found the kidneys would fairly average 600 bushels per acre, the greatest yield I have ever had, and that off the same ground, where last year they were scarcely worth digging. Were not my page out, I would say something on the disputed question of hilling, or not

hilling potatoes. They are both right, and both wrong, it depending entirely on the kinds cultivated: no two varieties of plants differing more in the manner of their growth above ground, than the different kinds of potatoes do under ground."

We hope our correspondent will favor us with his views on this topic, illustrating them by reference to the several cultivated varieties of the potato.

Threshing Machines.

A "Subscriber" at Baltimore, who inquires respecting threshing machines, particularly those suitable for small farmers, cost, &c. is informed that there are a great variety of them in use, and most of them answering well the purposes intended. One of the best kinds we have noticed, is one moved by one horse, treading on a revolving floor, to tend which, two men and two boys are sufficient, and which will thresh from 50 to 100 bushels of grain in a day with ease. Such machines are not liable to get out of order—can be repaired by a common machinist, and cost from \$110 to \$130.

Windmills.

Mr. John Coulson, of Baltimore county, Md. has asked for information with regard to the windmill patented by Mr. Keys, of Vermont; and that built by E. S. Andrews, of Pittsford, Monroe county, and the evidences of their success and utility. If either of these gentlemen will favor us with the information sought, it shall have a place in the Cultivator.

Silk.

We make the following extract from the letter of a correspondent, of Macedon, Wayne county. The yield of silk was a good one; but experiments made on a small scale, are apt to exhibit higher results than on a more extensive one. It shows, however, the ease with which silk can be grown; and adds another to the many proofs that it can, and will be a profitable business. The length of the thread of silk is, I think, not often exceeded, equaling about 1900 feet.

"In May last, I had a present of a few silk-worm eggs, which hatched 150 worms, which formed their cocoons in a little short of six weeks. One hundred of them weighed 5½ ounces. Ninety were reeled a few days since, and produced 1½ ounce of silk reeled. When the first cocoon had run off, they had reeled on a common reel, eight knots."

Our friends who make inquiries of us, will pardon us if we are at times more brief than they could desire; as many of these subjects are fully discussed in the former volumes of the Cultivator; and justice to former subscribers demands, that too much space be not occupied with matter already in their possession.

Notices, &c.

OSWEGO COUNTY AGRICULTURAL SOCIETY.

We have received from our friends in Oswego, the proceedings of a meeting of the farmers of that county, held on the first of February, which resulted in the formation of County Agricultural Society, with the constitution of the society, officers, &c. We should have been happy to have laid the whole before our readers this month, but the space occupied by the proceedings of the State Agricultural Society and Convention, forbid. We shall make room for these at the earliest opportunity.

A meeting has been held at Syracuse to receive the report of a committee appointed to prepare a more effective organization of the Agricultural Society of that rich county. The result we have not learned; but trust it will be such as will unite all hearts and hands in an efficient and cordial support. Nothing is wanting but the disposition, to give Onondaga a Society that shall be an example to the state, and an honor to the farmers of that county. This disposition we believe will be found to exist when the subject is properly presented to them.

Alpaca Wool.

At the late meeting of the British Association for the advancement of science, Mr. Dawson made a communication on the introduction of a species of *Auchenia*, (the Llama of South America,) into Great Britain, and presented specimens and samples of Alpaca wool, native and manufactured in imitation of silk, and without dye, as black as jet. Zoologists enumerate five species of the Llama, all of which afford wool; but the Alpaca alone has fine wool, from six to twelve inches long, and the Vicema wool like the fur of the beaver at the base of its coarse hair. The Alpaca wool is already becoming an object of interest and importation to England, where it seems not so much to enter into competition with the wool of sheep, as with silks. It is capable of the finest manufacture, and is especially suited to such fabrics as the finest shawls. The yarns spun in England are mostly sold in France for the shawl trade, at from \$1.50 to \$3.50 per pound, according to quality, the price of the Alpaca wool being from fifty-five to sixty-five cents per pound.

We cannot conceive there is any thing to prevent the naturalization of the Alpaca in the United States, and the attempt, if successful, might add an important item to our catalogue of ways and means. Although found under the equator, it lives and thrives on the highest inhabited districts of the Andes, where the cold is more

severe than in any part of our country. The Llama is the camel of this continent, and the Alpaca variety is about four feet in height and six feet in length. Like the camel they are very hardy, subsisting on the coarsest and scantiest food. The flesh is considered by the South Americans as the best kind for food, and they are raised in large numbers for this purpose, as sheep for mutton are with us.

Highland Agricultural Society.

BREEDING CATTLE.

At the late meeting of this noble institution, probably the most efficient and best conducted agricultural association in any country, after an able address from the Marquis of Tweeddale, the following questions were proposed to be discussed, and the individuals named were selected for the purpose.

"I. How far is it a wise and prudent measure to cultivate so largely the southern breed of cattle, to the risk of entire loss, or at any rate to the deterioration of the fine native breeds of cattle?"

Mr. Heriot and Mr. Craig were appointed to discuss this question.

"II. Would it be better to feed sheep fat for market, or bestow the extra keep raised in this northern district of the country upon the young stocks; and how far crossing different breeds of sheep may be carried on with advantage?"

Mr. Dudgeon and Mr. Horne were appointed to speak to this question.

The remaining questions were, 3d, "What is the best method of thorough draining?" 4th, "What is the best and most economical method of destroying thistles, ragweed, ferns, and other noxious weeds?" 5th, "Can bone manure be considered effectual for a crop, succeeding turnep, without being a second time manured, or ate off by sheep; and if so, what quantity will the acre require?" and 6th, "the advantage and economy to a farmer in using machinery for cutting turneps, hay and straw, and in bruising grain for stock?"—and were spoken to in their order by the Marquis of Tweeddale, Dr. Nicols, Mr. Sim and Mr. Davidson.

In the speeches made, and papers read, on these several topics much valuable information was communicated, and many important truths stated. From the decisive advantages of this mode of proceeding, we think a profitable hint may be derived for the future meetings of our agricultural societies.

Mr. Heriot gave an interesting account of the rise and present state of improved Durhams, and their introduction into Scotland; correcting a statement of Lord Spencer, that the best short horns were the result of a cross between a Durham bull and a Galloway cow, made by Mr. Colling; whereas the cross alluded to was between a Galloway bull and short horn cows; and though the result of this cross was several splendid cows, "eventually Mr. C. gained neither fame nor profit by the experiment; and though by this time the stain is probably washed out, breeders who possess the best herds have always carefully guarded against the blood thrown in by this cross, which has ever since been technically termed the 'alloy.'"

Respecting the much controverted point of breeding in and in, Mr. Heriot remarks—

"It is certainly an undoubted fact, that the splendid and beautiful animals in the possession of Messrs. Collings and a few others, thirty years ago, were produced, as I already mentioned, by putting the sire to his own progeny. But with those animals, the success of that extraordinary mode of breeding appeared to stop—for, by unfortunately pursuing a similar course, for eight years, the fine stock (pure short horns) brought to the Tweed side by Mr. Robertson, became not only extremely delicate, but many died of consumption, so that he was obliged again to apply to the Messrs. Collings for fresh and more distant blood than his own. By hiring the bulls Wellington, Maidas, and Brampton, and using them during ten years, his herd, altogether clear of the 'alloy,' again became superb."

Mr. Heriot had no fears from the spread of the Improved Short Horns, and thought them admirable for their size, early maturity and fattening qualities.

Mr. Craig's paper related to the effects of the Short Horns on the native breeds. His remarks related to Scotland; but as they are applicable to the native breeds of all countries, we make the following liberal extract, since few subjects can be of more importance than a correct understanding of this question.

"First, he contended that crossing [with the short horns] must deteriorate the native breeds. That this must ultimately happen is beyond a doubt. At present the rage over all Scotland is to cross the cows and heifers of the Scotch breeds of all sorts with short horn bulls. The consequence of this is, that parties will see their error when it is too late; as the excellent and hardy beasts of Galloway, Fife, Angus, Aberdeen, and the West Highlands will be gone: and the whole of Scotland will be filled with a mixed and spurious race of cattle. That parties will in the first instance select the finest cows and heifers to put to the short horn bulls, and that the first cross will in most instances be large and handsome is not doubted; but then, from the neglect that must ensue (and it has already begun) of keeping bulls of the native breed, the supply of pure Scotch cows and heifers must run out, and the consequence will be that people must and will breed from crosses, and it is generally allowed that a second cross is a failure. But in case the native breeds are destroyed, many people say we can breed pure short horns. So we can, but will that be for our interest? The short horn breed is soft, delicate, and liable to many casualties in our country and climate, to which Scotch cattle are not: and let it be kept in mind that short horn cattle, or even crosses from them, are very inferior beef, generally selling at 6d. to 2s. a stone less than the fine grained and beautifully mixed beef

of Scotland. It is not denied that well bred short horn cattle are very handsome to look at, but they are made so at great expense. Earl Spencer, who is allowed to be one of the best breeders in England, has a herd of very fine animals of this description, but how are they kept? Why, they are fed, groomed and clothed like race-horses, and it is very questionable if there are many farmers in Scotland disposed to be at that expense, and, if they were so inclined, would it not be wiser to give the extra feeding to the best Scotch cattle, which invariably fetch a higher price per stone in market. But the English do not run upon short horn cattle as we are inclined to do, though England is the native place of these cattle, and the climate is much better suited to the breed, than that of Scotland. Many of the English farmers would not for any consideration, contaminate their fine Devons, Herefords, Long Horns, &c. by infusing one drop of short horn blood into them. It may also be observed, that short horn cattle are to Scotch cattle something as Leicester sheep are to Cheviot sheep. Now there is not a Cheviot sheep farmer who knows his own business, in the Highlands of Scotland, but would say that by crossing his hardy Cheviot ewes with the finest and highest bred Leicester tups, his flocks would be ruined, and his own ruin would soon follow. If individuals only were likely to suffer from the propagation of this soft and delicate breed, no one would mind; as it is, he submitted if the subject, important as it was to the whole of Scotland, was not worthy of attention."

Mr. Wetherell, of Durham, corrected the statement of Mr. Craig, respecting Earl Spencer's cattle, saying he was personally aware of the fact, that his Lordship's stock was "badly kept on bad land."

This question of the effect of crossing the short horns with our native stock of cattle and then breeding from this mixture, is one of great interest to this country and particularly to the northern states. The produce of the first cross is good; there can be no doubt of that; but the opinion is becoming general, not only in Europe but in this country, that the progeny of these crosses are inferior to either of the original stocks, possessing few of the good qualities, and most of the bad ones of both races. The true course in crossing with animals, is by many of the best breeders supposed to be, to keep the original stocks pure, and cross with these alone; recourse being had to selection, to correct any tendency to deteriorate that may be discovered.

Breeding Sheep.

The discussion respecting sheep was principally on the merits of the different systems of feeding sheep for market adopted in Scotland, systems so much at variance with ours, as to have little interest to the American reader. An incidental remark of Mr. Horne, on the crossing of sheep, appears worthy of notice, as crosses of the Leicester and Merino are very fashionable at present in this country.

"With regard to the crossing of sheep, it must depend upon locality: where climate, land and food were favorable for Cheviot and Leicester sheep, he would advise them to get a cross as fast as possible, and then they would get the most valuable animal that could be produced, and one that could be brought to market at as low an expense as the pure Leicesters. Another cross was between the Cheviot and black faced sheep. How has it been introduced? It was introduced in consequence of farmers thinking the hills too good for black-faced, and not good enough for Cheviot. He believed they were all well aware that in crossing sheep it was necessary to take care never to exceed the first cross, otherwise, according to every information he had obtained, they were doing what was not a wise thing."

Drainage.

The paper on draining by the Marquis of Tweeddale, was a valuable exposition of the benefits of thorough draining, and the best mode of effecting it; with a description of the soils where it is most required, and the expense of performing it. Here we are met at once by the fact that outlays are proper there that would be ruinous here; the expense of draining, according to our accurate tables of the Marquis, exceeding the value of the best lands in the country. Still the advantages of draining, even in the manner in which it can be conducted in this country, are rendered perfectly apparent, and should attract the notice of every farmer.

We shall give a few extracts best calculated to develop the system recommended, and the mode pursued.

"Experience has taught me that the drains ought to be made longitudinally and in the furrows; the distance of the drains from one another ought to depend upon the quality of the subsoil; in those subsoils which I have experienced, 15, 18, and 30 feet are the distances I have found most efficient. Where the ridges are 15 feet, and the drains at the same distance from one another, the depth of the drain should be 24 inches—at 18 feet, 30 inches—at 30 feet, 36 inches.

"In filling up the drains above the tiles, for the covering of the water course] several plans have been adopted, depending on the locality of the farm; gravel, sand, small field stones, quarried stones broken small, or the surface soil is generally used. Gravel or sand appears to me to be the best covering to place on the straw placed over the tiles, as the water filters through either, taking nothing along with it, but what the farmer wishes to get rid of! The surface soil is what is next best, then the small land stones, and lastly quarried stones broken small. If the drain is three feet deep, it is frequently filled with a foot of stones above the tile, a sod is placed above the stones, the remainder of the drain is filled up with surface earth. The subsoil that comes out of the drain, should be spread equally over the ridge, or the space between the drains.

"The system I have adopted for the treatment of the lands on my own farm, where the soil and subsoil are of the weakest quality, such as I have previously described, much [resembling what is called the hardpan lands of this country.—*Eds. of Cult.*] is as follows. After it is drained in grass, the land is trench plowed, making the furrow from 14 to 16

inches; the sod, of course, is turned into the bottom of the furrow. The plowing is done by two plows, each having a pair of horses, and as the work is harder upon the horses that turn up the subsoil, or till, they every hour change with the plow that turns over the sod. The till remains exposed to the frost during the winter; in the spring the land is cross plowed, the sod is found quite rotten, and mixes with the till. Oats are sown—the crop is considerably better than before the land was drained; after the crop is cut, the land is ridged up with a winter furrow—turneps are sown in spring; in ridging up the land for turneps, there is little or no appearance of till. The best crop of turneps to be found in the same district of country is not superior to those grown after this management of the land; the land after the turneps are off is plowed for barley; no appearance is now to be seen of till; there is an excellent crop of barley, and the grass seeds are always well planted during the two years of grass which follow the barley—the fields have the earliest grass in the district of the country, the largest number of sheep per acre to feed on them, and the produce are the fattest animals. The grass that formerly grew in these fields was of the worst quality, and sheep would barely eat it. No extra manure or lime has been applied to these fields.

"In conclusion, I think it will be satisfactory to state, I have an equal dread with other farmers, to bring till, such as I have described, to the surface before the land is drained. It is only after that operation has been effectually executed, that I consider the till or subsoil, when properly pulverized, forms a new soil, the most valuable and easy to work of any I know; for in a wet season the water escapes by the drains, and in a dry season, the till or clay subsoil that has not been removed, retains sufficient moisture for the plants growing in the pulverized surface soil, to supply food for them by the exhalations caused by the heat of the weather."

Manures.

The paper of Mr. Sims on the use of bone dust shows the excellence of that substance as manure, particularly for drilled crops, turneps, &c. The following paragraph struck us as showing the impropriety of relying on any single manure, to retain land in a state fit for cropping. In our agriculture, while we imitate the valuable, we should carefully avoid what experience has proved to be faulty or injurious.

"Many of us know that lime, when frequently repeated, ceases to operate so advantageously as at first; nay, that it may be, and becomes absolutely hurtful; and I apprehend that such has already been the case with bone manure, in places where it has been long in use; and that it may come to be so with us."

We think there is abundant evidence, that where mineral manures are alone used, the soil will become exhausted and incapable of producing vegetation; and that where animal or vegetable manure is continually applied, though the vegetation may be luxuriant, the seeds are rarely perfected, particularly those of the cereal grains. A mixture of the two, with crops that require both, seems to be what is required in good farming.

Economy of Fuel.

The necessity of economy in the use of fuel is daily becoming more apparent to every one who looks at the state of the country with respect to this article. Our forests are fast disappearing; to our rich coal mines multitudes can have no ready access, and the prices are such as to place it almost beyond the reach of the poor; there seems therefore no way but to economize the wood that remains, and by using it in the most available manner, give time for new woodlands to take the place of the old. That stoves give out much more heat from the same quantity of fuel than fire-places is evident, as in the last a very large portion escapes up the chimney without the least benefit. There is also a great difference in stoves giving out heat, and much is depending on the manner in which the smoke is allowed to pass from them into the chimney or air. With many the draft is so strong, and the conducting pipe so short, that nearly as much heat is lost, as in the old fire-place. Where practicable, stoves should always be in the lowest rooms, and the length of pipe should be such, or arrangements should be so made, that the heat may all be given out before the smoke escapes. If the wood is good, what may be called air-tight stoves, or stoves provided with a close damper to the flue above the fire, and furnished with the means of closing it tight to prevent the access of air below, are found very economical. The Yankee Farmer says:

"We have used a common box stove in this way. We filled it with hard wood, and when well on fire, we shut the door closely, and then turned the damper in the funnel, and it would burn nearly a whole day without further attention, keeping the room warm. Had the stove shut almost perfectly tight, the fire would have lasted a whole day; when with the funnel and draft open, the wood would have been consumed in less than one hour. When fuel is burned in a close apparatus, confined as we have named, it consumes very slowly, and yet it warms a room well, as it spreads, instead of passing out of the chimney, as is the case where there is a strong draft and rapid consumption of fuel."

This is correctly stated, as wood cannot consume rapidly without a constant supply of oxygen, which in this case is partially cut off by preventing the admission. The wood in this case instead of going off in flame burns as would charcoal, or wood that is being charred in a common coal-pit. Good wood only can be depended on in the air-tight stove, as with green or half rotted wood there would be more smoke than coals, even admitting a fire in such a stove could be kept up with such wood, which is, to say the least, problematical. In all cases where wood or coal is burned in close stoves, care must be taken to prevent a fatal deteriora-

tion of air in the room; and a vessel of water should be on the stove to prevent that peculiar dryness of the air so injurious in confined and stove-heated rooms.

There can be no question but that properly managed, one half the fuel now used for warming rooms might be dispensed with; as also might much of that used for culinary purposes, if the most improved modes, and the proper fixtures for economizing it were adopted. Let the farmer plant trees, while the man of science improves the methods of burning them when wanted for fuel, and we may yet bid successful defiance to the frozen north.

Large Litters of Pigs.

We much question whether two litters of pigs, bred for slaughtering alone, from one sow, can be produced in the country, exceeding the ones given below, in weight or value. Our host of the Syracuse House has fine cattle as well as good pigs, and obtained some of the premiums awarded at the Onondaga Agricultural Fair. We copy from the Syracuse Journal.

"Mr. Rust, of the Syracuse House, killed, the present week, two litters of pigs from the same breeding sow, one of 12 in number, 15 months old; and the other 11, eight months old. The first averaged 313 lbs. each, making a total of 3,756 lbs. weight; and the latter 207 lbs. each, making a total of 2,277 lbs. weight. The whole amounted to 6,033 lbs. or a little over three tons, which, at the present low price of pork, is worth \$301.65."

The number of pigs which have been produced at a litter does not seem to be generally known by farmers. The average number, as proved by the records of many breeders, is from seven to eight at a litter, but this number is sometimes greatly exceeded. The greatest number on record, we believe, in this country, previous to the present year, as the product of a single litter, was twenty-three; but the following from a Hartford journal, shows that even on this point there has been room for improvement.

"Messrs. Cheney and Shepherd, of Chatham, Middlesex county, were favored with a litter of Berkshire pigs, from one sow, amounting to twenty-eight in number. We took the trouble to ascertain the fact, found that it was correct, and think it will outdo any thing of the kind on record."

"This is indeed pretty well for brother Jonathan; but he must try again, or John Bull will still bear away the palm of producing the most, as well as the biggest hogs, as the following extract from the British Husbandry will show:

"Twenty swine are estimated to produce 150 pigs, or on an average, seven and a half pigs each, for their first litter. Instances are indeed on record, of a sow, which in 20 litters, produced the extraordinary number of 355 pigs; as well as of another having farrowed 37 at one birth, and from 15 to 20 are not uncommon. Large litters are not always the most profitable, as they usually have among them many weakly individuals which can never be reared with advantage."

Ice Houses.

Although we do not consider ice houses as absolutely essential to the health or comfort of the farmer, yet as a little ice water in the fervid heats of summer is certainly refreshing, and if properly regulated in quantity, perfectly safe, a few hints respecting the best mode of preserving ice or snow may be acceptable. In making an ice house, two things must be kept in view; first, that the vault or pit be dry; and secondly, that its walls be constructed of some non-conducting material.—A northern exposure will be the best for the ice house, but this is not absolutely essential. Protection from the sun by trees or buildings, is also an advantage where convenient. If the pit dug for the house is not in gravel that will admit the water that drains from the ice to pass off freely, a drain must be made, and it should be so constructed, that all access of the external air through it should be cut off. The frame of the building should not touch the sides of the pit, and on the bottom the points of contact should be as few as possible. The space between the outer and inner boarding of the building should be filled with tan, to exclude the air, and a double roof well filled in with the same material will be advisable. Doors, convenient for the reception of the ice, and also for procuring it when wanted, must be made so as to perfectly exclude the external air, and prevent all circulation within. If the vault will admit of it, double doors, with a space of several feet between will be best; and this space will be an excellent place for preserving fresh meat, keeping butter cool, &c.—Whether ice or snow be used, it will gradually give way on the sides and top, and these spaces as fast as they enlarge, should be filled with clean straw, which is one of the best of substances for this purpose. Formerly it was thought that ice alone would answer for preservation, and it was always procured, though sometimes at considerable expense. Now, it is said that snow is far superior, and if it will keep as well, it must be; as much of the ice obtained from rivers and ponds is very far from being in that state of purity which is desirable for summer drink.

Nothing more is necessary, than to gather the snow when compact and dry, throw it into the pit, and pound or tread it down as firmly as possible, keeping all moisture from it during the operation. As the snow contracts during the summer, clean straw must take its place, and in this way the purest of snow or ice may be had the whole year. All that part of the building above ground,

roof and all, should be painted white, or white washed, as often as is necessary to ensure a perfect whiteness. The necessity of this precaution will be obvious to all.

Making Pork.

The Quarterly Journal of Agriculture contains the record of some experiments made by M. Bengtrapp, to test the value of several articles in fattening swine. He brought up separately, five couples of pigs, and obtained after a certain length of time, the following results:

Couples.	Food.	Increase of weight.
1st, got 55	decalitres of peas.....	22 st. 7 lbs.
2d, " 283	" balls of wheat.....	24 st. 3 lbs.
3d, " 96	" buckwheat.....	26 st. 10 lbs.
4th, " 98	" boiled potatoes.....	20 st. 4 lbs.
5th, " 175	" carrots.....	28 st. 2 lbs.

The decalitre is equal to 15 pints, or nearly a peck of our measure. What is meant by the balls of wheat, unless it be what we term bran or shorts, we are unable to determine. On these experiments the editor of the Journal remarks:—

"These results, though interesting, are not entirely satisfactory, because it is not mentioned whether the pigs were all of the same age and weight, nor is it stated whether the quantity of food marked in the table was as much as the pigs could consume. We have always believed that peas were the most nutritious food that could be given to pigs; [It must be remembered that Indian corn is not grown in Great Britain, and therefore unknown for feeding pigs.—Eds. of Cult.] and this experiment confirms the belief, as may be seen by comparing the relative increase of weight obtained from the various kinds of food, viz: 55 decalitres of peas gave 22 stone 7 lbs., or nearly 6 lbs. of pork for one decalitre of peas; whereas only 28 st. 2 lbs. were obtained from 175 decalitres, or about two and a half lbs. of pork to each: giving the peas the advantage of two and a half to one. Next to the pea, the most nourishing food is the buckwheat, which gives nearly four pounds of pork to every decalitre. The lowest produce was from the wheat balls, which was only one and one-fifth lb. of pork to a decalitre. The boiled potatoes gave three lbs. of pork to one decalitre."

The relative value of the kinds of food here enumerated, would stand as follows:

1 peck of peas will make.....	6 lbs. of pork.
1 " buckwheat.....	4 "
1 " boiled potatoes.....	3 "
1 " carrots.....	2½ "
1 " wheat balls.....	1.5 "

The relative value however, of the several articles after all, must be determined in part, by the quantity that can be grown on an acre, and the expense of feeding each kind of food. Thus, if 500 bushels of carrots can be grown on an acre, and but twenty-five or thirty of peas, the acre of carrots will make, at the rate calculated, above 5,000 lbs. of pork, and the acre of peas 720 lbs.: thus giving the carrots, after deducting the expense of cooking, greatly the preference. The same remarks will hold true of the boiled potatoes, which are much cheaper than either corn or peas. There can be no doubt, however, that the product stated from each kind of food in the above table, will be found to greatly exceed the amount usually obtained by the farmer in the common mode of feeding.

Mutual Insurance on Cows.

There are multitudes of honest, poor laboring men in this country, particularly in the neighborhood of cities, or where the population is mostly mechanical or manufacturing, whose main reliance for support, after their daily labor, and certainly that of their children is depending on their single cow, which the law has secured beyond the reach of the rich or the grasping creditor. But the law does not guarantee them against disease, and very often the unfortunate poor man, by the loss of his cow, finds himself and his children at once reduced to want, and at the same time without any means of repairing his loss. Every one is aware that such is the case in every part of our country—and appeals to the benevolent not unfrequently arise from this source.

The same state of things has long existed in England and Scotland, among the small farmers, the cottagers, and manufacturers; and the evil was so severely felt, that public attention was at last turned to the subject, and associations called cow clubs, conducted on the principles of mutual insurance, have been introduced, and wherever tried, are spoken of in the most laudatory terms.

The principle on which these associations are formed, is exceedingly simple; consisting in the main of only insuring members, who become such, by contributing to the funds of the association such a sum annually, as shall be deemed proper, or which an experiment shall prove necessary, in order to meet any loss that may occur. The rate of contribution in the different societies, varies somewhat; as the liability to loss, owing to severity of winter and other causes, is greater in some districts than in others. The rates of annual subscription, range from 50 cents to \$1 25 per annum; and the range of loss per cent, from 2½ to 4½. If the cow of a member of the association dies, the committee of the body examine the case, and if the loss is not owing to wilful carelessness or neglect, the individual is awarded a sum usually sufficient to purchase a good cow, which must be appropriated to this use and no other. A certain sum is however fixed upon in the regulations of the society, which is not to be in any case exceeded; and the age of the animal is

also determined, beyond which no premium can be given.

We think there are many places in this country, where similar associations might be instituted with decided advantage, and the payment of a trifling annual premium, not in ordinary cases exceeding the value of a day's labor, secure the poor man against a loss which is always a serious one, and in the ordinary state of things is irretrievable, without great inconvenience and sacrifices.

Green Vegetable Matter for Manure.

The value of green vegetables, when put under the soil and submitted to the process of decomposition, does not appear to be fully appreciated by the farmer. The more rapid the growth of a plant, the more efficacious is it in restoring exhausted soils, a result, perhaps depending on the fact, that such plants derive a large portion of their support from the atmosphere, and of course return to the earth more than they take from it. Buckwheat and clover are striking instances of this power in green crops to fertilize soils, and both have been extensively used for this purpose. Green manuring has been more used for grain crops than for roots, but the following experiment made by Professor Parks, in 1839, will show that the good effects are not less conspicuous on roots than on grain.

"I had a trench opened of sufficient length to receive six sets of potatoes, under three of which I placed green cabbage leaves, while the other three had nothing but the soil. When the crop was dug up, the plants over the cabbage leaves yielded about double the produce of the other."

Experiment with Wheat.

The following results of an experiment made with several varieties of wheat, we condense from the London Express, and consider interesting as showing several particulars in the English mode of cultivating this grain, such as manuring, time of sowing, quantity of seed, and the yield per acre:

Varieties.	Number of rods sown.	When sown.	Quantity sown.	Total produce.	Produce per acre.	Weight per bushel.	Time of harvest.
1 Jersey Dantzic,	286	10	4 65	36½	60	Sept. 7.	
2 Round White,	581	9	8 124	35½	60½	Aug. 28.	
3 Coturianum,	543	10	8 116	35	60	Sept. 10.	
4 Jersey Hoary,	283	10	4 71	40	59	" 7.	
5 Wellington White,	804	9	12 190	38	60½	Aug. 28.	
6 Golden Drop Red,	189	9	2½ 47	40	61½	Sept. 7.	

Mr. Clarke, the experimenter, says—"The soil on which these wheats were grown, is an alluvial loam of medium quality, well fallowed, and manured with fourteen good loads of rotten dung, five bushels of crushed bones, and forty-five bushels of sod ashes per acre, sown with Swedish turneps on ridges, which were drawn and carted into graves or heaps the two or three first days in December, the land immediately plowed and the wheat drilled in with a common Suffolk drill, at the time stated in the table."

We imagine that were almost any of our western farmers to treat their wheat lands to such a manuring as Mr. Clarke gave his, their crops would not suffer in a comparison; but the fact of his wheat being sown on the 9th or 10th of December, shows that a course of culture admissible there, would be impracticable here, a truth applicable in more instances than this.

New Silk Worms.

The British have recently added to their already overgrown East India possessions, the province of Assam, and the exploration of the country has brought to light many rare, and some before unknown productions.—Among these, a Calcutta journal describes some half a dozen varieties of silk-worms, which produce large quantities of silk used in the manufacture of fabrics. One of these, the *muga worm*, is never reared in the house. It is fed on the trees where they are reared, and when one tree is stripped of its foliage, the worms by a simple and expeditious process are removed to another. Their term of feeding is about thirty days, when they descend, are secured on plantain leaves, on the dry leaves of which they spin their cocoons. The silk is not in one continuous thread, but has to be spun as cotton or worsted. Three crops in a year are produced. The *arinda worm*, is another of these new worms. Like the former, the silk is coarse, but very strong and durable. It has sometimes in that warm climate produced ten or twelve crops in a year. The silk of these two species of worms constitutes much of the clothing material of the Assamese, being preferred as cheaper, because more lasting than cotton. Some of the other kinds spin a thread like the common silk-worm, but of great strength and lustre; and the moths of one of the species measures not less than ten inches across its wings.

There is in the United States, a large green worm, the larva of a species of *saturnia*, and frequently called the apple-tree worm, that spins a cocoon producing silk much resembling the kinds described above. A year or two since, we detected two of them on a gooseberry hedge, where they fed till they spun their cocoons.—

From one of these, we succeeded in procuring the perfect insect, a beautiful moth, between six and seven inches across its wings, and resembling in every respect, except that it was larger, the one figured as 25, in Wilson's Lepidoptera. The silk from these cocoons was coarse, but almost as strong as wire, and could it be procured in sufficient quantity, would make the most durable of cloths.

Items from our Note-Book, No. 3:

Grass Seeds.

A writer in the Farmer's Cabinet, desirous of ascertaining the number of seeds contained in a bushel of some of the commonest kinds of cultivated grass seeds, from the process described, arrived at the results given in the table.

He caused, he says, "one-sixteenth part of an ounce avoirdupois of the kinds noted to be accurately weighed. The seeds in each parcel were then carefully counted, from which it was ascertained the number of them contained in a pound, and also the number contained in a bushel, the weight of which was known. The seeds were all perfectly clean and of the best quality.

"Timothy seed, rated at 40 lbs. per bushel, number of seeds in a bushel, 60,600,320; Red Clover seed, (American,) 60 lbs. per bushel, number of seeds, 24,084,480; Dutch Red Clover seed, imported, 60 lbs. per bushel, number of seeds, 16,819,200; Dutch White Clover seed, imported, 60 lbs. to the bushel, number of seeds, 43,829,600; Orchard Grass seed, 12 lbs. per bushel, number of seeds, 5,818,380."

It will be seen that the imported Dutch Red Clover is larger than the American Red Clover seed, and to have the plants equally thick, one and a half bushels of the imported would be required to one of the American.

"Chevalier Barley."

As a proof of the great ease with which new and productive varieties of grain may be introduced, and the advantages which would result from such a course, we extract from a work on the "Present state of the Agriculture of England," the account of the barley named at the head of this note, and which is rapidly superseding in cultivation most others in that kingdom. Of its discovery, Dr. Chevalier, on whose farm it originated, gives the following account:

"An extraordinary fine ear of barley was observed and selected by a laborer of mine in the parish of Debenham, in 1819; in the spring of 1820 I planted 27 grains in my garden; in 1825 I planted half an acre of this species, and half an acre of the common species, the land under precisely similar cultivation. The product of the first amounted to eight and a half combs, and of the last to six and a half combs, (34 and 26 bushels.) The ears of the first averaged 34 grains, the second 30; the grains of the first heavier as four to five. In the course of 5 or 6 years it was generally accepted and approved in my neighborhood, and I promoted its fair trial, charging only the current market price for it."

Bees.

Mr. Keith, of Maine, in a communication to the Monthly Visitor, after describing several modes of managing bees, and the ill success that attended them, thus in substance gives the result of an experiment made by placing them in a garret. He finished a room in his garret impervious to rats and mice, to which was a door secured against children and intruders. In this room was placed a swarm of bees, the hive on a level with and near the places made for their egress and ingress. The young swarm soon filled their hive, and then commenced building all around it, filling in with the finest comb, and without the support of slats or bars, the space from the roof to the floor of their room. Mr. Keith, by the aid of a candle was able at any time to inspect the progress of his apiary, and witness the formations of the column of comb. There was no swarming, and of course the work had the benefit of all their increase in numbers. After the second year of their operations, Mr. Keith commenced taking honey from the room, doing it in the winter when the bees were dormant, in the central part of the mass; these external combs always composing the best and purest part of the store. For many years Mr. Keith's table was abundantly supplied in this way with the choicest of sweets, until in 18—, his dwelling house was destroyed by fire, and his bee-hive "containing at the least eight hundred pounds of honey, and of living beings a multitude which no man could number," shared the common fate.

From what we have seen, and have been able to learn on this subject, the mode of treating bees as above described is superior to most others, for the following reasons. It prevents in most cases any swarming; the bees are not as frequently attacked and destroyed by the bee-moth; there is no necessity of destroying the bee, as is the common but cruel practice; and the store of honey is always at command. The honey bee is one of the most valuable of our manufacturers; and that and the silk-worm almost the only insects that contribute by their industry to the comfort of man.

Sorrel.

A great pest on the farm is the common sorrel, not only being useless in itself, but occupying ground which might be filled with profitable herbage. Sorrel too, while it springs from sour soils, contributes to increase that sourness, by depositing in the earth, the acid which the plant has the power of secreting. To destroy sorrel it is only necessary to destroy or neutralize the acid essential to its

growth; and this is fortunately within the power of every farmer by the application of lime. Lime and sorrel cannot exist together; the alkali of the one is fatal to the acid of the other, and where the sourness of the soil is corrected, the sorrel will disappear as a matter of course. A writer in the Cabinet says:

"We had a few acres infested with sorrel, much to our inconvenience; on a part of this we spread sixty-six bushels and two-thirds of lime to the acre, on the balance we spread two hundred bushels of ashes. The sorrel on the limed part has nearly disappeared, while on the portion on which ashes were spread, it is as thick as ever."

Tompkins County Agricultural and Horticultural Society.

In pursuance of the recommendation of the Court and Grand Jury, issued in September last, and in public notice, a large and very spirited convention of the farming population of this county, was held at the Clinton House, in the village of Ithaca, on Wednesday last, February 12, to take into consideration the propriety of forming an agricultural and horticultural society for this county.

At 7 o'clock, P.M. the convention was called to order by Mr. W. A. Woodward, on whose motion W. R. COLLINS, Esq. was called to the chair, and on motion of Mr. L. A. Morrell, R. HALSEY was appointed secretary.

On motion of Mr. W. A. Woodward, Resolved, That this meeting form itself into a society to be called the Tompkins County Agricultural and Horticultural Society.

The following gentlemen were appointed by the chairman a committee to recommend a constitution for the consideration and adoption of this convention, to wit: W. A. Woodward, Caleb Smith, and Lewis A. Morrell.

On motion of Mr. L. A. Morrell, the chairman appointed a committee consisting of one from each town represented in this convention, to recommend to the convention a board of officers for the society, as follows: L. A. Morrell, Lansing; J. Wallenback, Enfield; W. Pugsley, Danby; John Boynton, Groton; Caleb Smith, Hector; W. T. Lawrence, Newfield; Wm. Cobb, Dryden; Ruben Judd, Ithaca.

Mr. Woodward, from the committee on a constitution, made the following report:

Constitution of the Tompkins County Agricultural and Horticultural Society.

Sec. 1. This society shall be called the Tompkins County Agricultural and Horticultural Society.

Sec. 2. The object of this society shall be to advance agriculture and horticulture in this county.

Sec. 3. Every person desirous of connecting himself with this society, shall pay to the treasurer one dollar at the time of his becoming a member, and one dollar annually thereafter, on the first Wednesday in October, during his continuance as a member. Any member wishing to withdraw from the society must pay all dues and give a written notice to the recording secretary of his intention.

Sec. 4. The officers of the society shall consist of a President, nine Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, and an Executive Committee consisting of one member from each town in the county—all of whom shall be elected by ballot on the first Wednesday in October, annually, and shall continue in office one year, or until others shall be chosen in their stead.

Sec. 5. There shall be an annual meeting on the first Wednesday in October, at Ithaca, (or at such place as the board of managers shall direct,) for the purpose of holding the regular fair and exhibition of domestic animals, manufactures, and articles the produce of the farm and garden. Fifteen members shall constitute a quorum at all meetings of the society.

Sec. 6. The officers of the society, five of whom shall form a quorum, shall constitute a Board of Managers for the general administration of the affairs of the society. They shall have full power to enact such by-laws as may be deemed expedient, to appropriate the funds of the society to the proper objects of the institution—to appoint committees—to convene special meetings of the society—to hold the Annual Exhibitions and make all arrangements necessary therefor; to award such premiums as may be offered by the society, and determine all matters connected therewith; to take charge of and distribute plants, seeds, books, &c. or whatever may be transmitted to the society; and to correct, arrange and publish addresses and other communications, together with the proceedings of the society, at such time and in such form as they shall deem best calculated to promote the objects of the society.

It shall be their duty to appoint yearly, two members from each town, who with the member of the executive committee from the same town as chairman, shall be standing committees to superintend the concerns of the society in their respective towns, whose correspondence shall be addressed to the corresponding secretary, and who may be requested by the treasurer to collect money due the society in their respective towns.

Sec. 7. The President, or, in his absence, one of the Vice-Presidents, shall preside at all meetings of the Board of Managers, or the society, and at all exhibitions or fairs held by the society.

Sec. 8. The corresponding secretary shall, under the direction of the Board of Managers, receive and answer all communications addressed to the society or any of its officers, and perform such other duties as

may from time to time be assigned to him by the Board of Managers.

Sec. 9. The recording secretary shall keep a record of the proceedings of the society; he shall also be recording secretary of the Board of Managers, keep a record of their transactions, and perform such other duties as may be assigned to him from time to time by the Board of Managers.

Sec. 10. The treasurer shall receive all sums due the society, and all donations in money made for its benefit, and disburse them only on the orders of the President. He shall keep an account of his receipts and disbursements, and report the same annually to the Board of Managers, and oftener if required. He shall execute a bond to the society for the faithful performance of his duties, in such penalty and with such securities as the Board of Managers shall require.

Sec. 11. The Board of Managers shall have full power to fill all vacancies that may occur, by death, resignation or otherwise, among the officers of the society, and the persons so appointed shall hold their respective offices until the next annual meeting of the society, or until others are elected in their stead.

Sec. 12. No persons but such as have been members for thirty days previous to the annual fair, and continue to pay their annual dues, shall be permitted to compete for premiums.

Sec. 13. The constitution may be altered or amended by a vote of two-thirds of the members present at any stated meeting of the society.

On motion of Mr. W. G. Grant, the report of the committee was unanimously adopted.

Mr. Morrell, from the committee on officers, reported the following: Nicoll Halsey, of Ulysses, President. W. T. Lawrence, of Newfield; Peter Hager, of Hector; Luther Hedden, of Lansing; A. B. Pugsley, of Caroline; Julius Ackley, of Ithaca; Henry Brewer, of Enfield; Sylvester Nash, of Groton; Benj. Wood, of Dryden; and J. C. Mandeville, of Danby, Vice-Presidents. W. A. Woodward, of Ithaca, Recording Secretary. L. A. Morrell, of Lansing, Corresponding Secretary. W. R. Collins, of Ithaca, Treasurer.

On motion of Mr. E. Cornell, the report of the committee was unanimously adopted.

On motion of Mr. E. Cornell, Resolved—That an executive committee, consisting of three in each town in the county, be appointed to obtain members to this society; and that the president and vice-presidents be one of said committee in their respective towns, when the following were appointed: Ulysses, Nicoll Halsey, Elias J. Ayers, Horace Cooper. Hector, Peter Hager, John Saylor, Thomas B. Sears. Dryden, Benj. Wood, E. W. Cady, R. C. Ellis. Groton, S. Nash, Joseph Pennoyer, Nathan Benson. Danby, J. C. Mandeville, Elbert Curtis, Francis Nurse. Newfield, W. T. Lawrence, Isaac S. Smith, Herbert Estabrook. Enfield, H. Brewer, B. V. Gould, Jared Treman. Ithaca, J. Ackley, E. Cornell, R. Halsey. Caroline, A. B. Pugsley, L. W. Kingman, S. B. Green. Lansing, L. Hedden, L. A. Morrell, Charles Davis.

On motion of Mr. Morrell, Resolved—That a general meeting of the officers, and of the town executive committee of this society, be held at the Clinton House, Ithaca, on Tuesday, March 3d, at 1 o'clock, P. M. at which time a prompt and full attendance is desired.

On motion of Mr. Morrell, Resolved—That as the sense of this convention, agricultural papers are invaluable as a medium of conveying intelligence of improvements which are being made, connected with tilling the soil, of domestic stock, and in short, of every thing pertaining to the interest of the farmer, therefore a subscription to the Cultivator, published at Albany, is recommended to the farmers of this county.

On motion of Mr. Cornell, Resolved—That the president and recording secretary have 1,000 copies of the proceedings of this convention, and of the constitution, published in pamphlet form, for the use of this society.

On motion of Mr. Woodward, Resolved—That the proceedings of this convention be signed by the chairman and secretary, and a copy handed to all the papers in this county, and to the editors of the Cultivator at Albany, for publication.

On motion, Resolved—That this convention now adjourn. WM. R. COLLINS, Chairman.

ROBERT HALSEY, Secretary.

All communications addressed to the corresponding secretary, must be directed to Lake Ridge, P. O. Lansing.

Remedy for the Bots.

MESSRS. EDITORS—In looking over the January number of the Cultivator, I was surprised, in reading the article on bots in horses, although the subject was ably treated, that there was no remedy pointed out to relieve the noble animal from suffering and death. Having seen many horses die with bots, and many remedies given without effect, I was induced by a merchant in Cambridge, to try the following for a horse of my own, after I had tried most of the remedies in common use without effect, and had given him up for lost:

Half pint vinegar, half pint soft soap, half pint gin, and half pint molasses, well shaken together, and poured down while foaming. To my great surprise, the horse was in five minutes wholly free from pain, and ate freely—the next morning I was on my journey. I have since recommended and given the same in perhaps fifty cases, with the same good effect; not in one instance has it failed to effect a perfect cure.

Troy, Jan. 29, 1840.

ISAAC LOVEJOY.

N. Y. State Agricultural Society.*Albany, Tuesday, Feb. 4, 1840.*

The Society met pursuant to adjournment, at the City Hotel in Albany, on Tuesday, Feb. 4, 1840. The President, ANTHONY VAN BERGEN, of Greene, took the chair, and JESSE BUEL, of Albany, was appointed Secretary pro tem. After the disposal of the usual preliminary business,

On motion of Mr. Beekman,

Resolved, That a committee of five be appointed to report the names of suitable persons, for officers of the Society for the ensuing year.

The Chair appointed Messrs. J. P. Beekman, of Columbia, J. B. Nott, of Schenectady, J. J. Viele, of Rensselaer, J. L'Amereux, of Albany, and T. St. John, of Fulton, on said committee.

The report of the Treasurer was then read, accepted, and ordered filed, showing a balance remaining in the treasury, of \$84 03.

Mr. Nott, from the committee appointed at the last meeting to memorialize the Legislature at its last session, for an appropriation in aid of the cause of agriculture, reported that all the duties devolving on that committee had been performed.

On motion, a committee, consisting of Messrs. Nott, Beekman, and Walsh, was appointed to select subjects to be reported on at the next annual meeting of the Society. Adjourned till to-morrow at 11 o'clock, A. M.

Wednesday, Feb. 5, 1840.

The Society met pursuant to adjournment. The minutes of the previous meeting were read and approved.

On motion of Mr. J. B. Nott,

Resolved, That this Society will hold a semi-annual meeting on the — day of — in the town of — in the county of —; and that the Executive Committee make the requisite arrangements for that purpose, and give suitable notice of the time and place at which the meeting will be held, provided they receive sufficient encouragement from any county to induce them to believe that the objects of the Society will be advanced by such meeting, and that they will use their utmost endeavors to induce the farmers of the neighborhood, to meet the Society on that occasion; and also to secure the exhibition of farm stock and implements, as well as plowing matches.

Resolved, That the committees appointed on Agricultural subjects, be requested to report as far as practicable, at said semi-annual meeting.

The following preamble and resolution, offered by Mr. J. J. Viele, were adopted:

Whereas, the present is a crisis in the history of our Agricultural Society requiring the most jealous and active exertions of the friends of improvement; and whereas we are fully persuaded that much good may be effected not only to individuals but to the community at large, by the united association and joint efforts of enlightened and patriotic individuals—thereupon

Resolved, That we, as a Society and as individuals, pledge to each other and to the community at large, our renewed exertions to build up and extend the influence of this association.

On motion of Mr. J. P. Beekman,

Resolved, That the Executive Committee of this Society be requested to draw public attention to the annual meeting of this Society, to be held in February next, and that they take active measures for that purpose, by publications or otherwise, and that they report to the next meeting, the steps they have taken to carry into effect this resolution.

On motion of Mr. J. B. Duane,

Resolved, That this Society most earnestly recommend to the friends of Agriculture throughout the counties of this State, immediately to organize county societies, and to send delegates to the State Agricultural Society the ensuing year.

The Society then adjourned to meet at the Capitol at 3 o'clock, P. M.

Assembly Chamber, 3 o'clock, P. M.

The Society met pursuant to adjournment. J. P. Beekman, Esq., from the committee to report the names of officers of the Society for the ensuing year, made the following report, which was unanimously adopted:

FRANCIS ROTCH, of Otsego, *President*.

J. B. DUANE, of Schenectady,

H. D. GROVE, of Rensselaer,

A. WALSH, do.

J. J. VIELE, do.

S. VAN RENSSELAER, Albany,

} *Vice Presidents.*

LUTHER TUCKER, of Albany, *Cor. Secretary*.

W. COOPER, of Albany, *Rec. Secretary*.

C. N. BEMENT, of Albany, *Treasurer*.

J. B. NOTT, of Schenectady,

J. P. BECKMAN, of Columbia,

A. VAN BERGEN, of Greene,

} *Ex. Committee.*

The President delivered the following

Address.

FELLOW-CITIZENS—CULTIVATORS OF THE SOIL:

For the honor of being called to the Presidency of this Society, and to the duty of addressing you on this occasion,

I would render to you my unfeigned thanks. This is an honor to which, among so many of my fellow-agriculturists, older and more experienced than myself, I could have but a feeble claim, and this is a duty of such extent and importance, and one that has been heretofore discharged with such ability and research, that I feel very great diffidence in entering upon it.

Having, for many years, been nothing more than a plain, practical farmer, to digest a treatise on any subject, even on my own business, has not fallen in the range of my occupations, and to make addresses, other than to my workmen and my neighbors, has not entered into my habits. But, gentlemen, it does not become a plain-hearted yeoman to make apologies, and therefore I proceed to my duty, relying with confidence on your forbearance and good sense.

It would be unpardonable in any one occupying this place on this occasion, neither will my feelings permit me, to pass in silence, the lamented removal, by death, of one of my predecessor presidents of this Society, the veteran and venerable patron, and almost the pioneer in agricultural improvements in this state, JESSE BUEL, Esq. Like good old Cincinnatus, he left the field of politics and the cares of the state, to hold the plow and direct the labors of the field. In manners, plain and unassuming—in intercourse, open and conciliating—in knowledge of agriculture and the kindred sciences, various and profound—in labor for the common good, prompt, self-denying, and energetic—in theory, the farthest from visionary and speculative—in experiment, cautious and persevering—in his qualities as a man, a citizen and a politician, frank, honest, independent, unimpeachable, Judge BUEL was a pattern of worth, whose like we can not often find—whose loss will be severely felt, not only by his afflicted family, with whom we sincerely sympathize, but by a discerning public and an extended community. But as an able and adequate pen is engaged to prepare a memorial of his worth and our esteem, I forbear from saying more.

Gentlemen, the burden of our intercourse to-day, is, the tillage of the ground, and this shall also be the burden of this address. This employment has been degraded by the proud and the indolent—regarded as secondary by the learned, and the mercantile classes, and all who found it easier to live by their wits or by speculation, than by labor or frugality—and it has been undervalued by the community very generally. I can not deny that there have been some just grounds for considering this occupation as connected with low thoughts and narrow views; for too often have farmers neglected the cultivation of their minds—the study of the constitution and laws of the country—even the news of the day—and thus have sunk to the humblest level of the community, and their transactions have been marked by an entire want of liberality and enterprise; and so their business has been identified with themselves and comparatively degraded. But this inference is exceedingly unfair. For, by this rule, we might degrade the vocation of the lawyer, the physician, and even the minister of religion; for often there have been low and unworthy members of these professions. But if we judge of the employment of the agriculturist, by the testimony and action of the wisest and best of men, we shall conclude that it is as honorable as it is independent and profitable. In ancient times, not a few men of patriarchal renown, and of senatorial dignity, were tillers of the soil; and this vocation has been the example of the first of men, and the seal of the Creator himself. When he created man, he made him not a student, a philosopher, a statesman, a manufacturer—but a tiller of the ground. He placed him in a beautiful garden, studded on every side with trees that were attractive to the sight, and good for fruit, and bade him dress it and keep it. Here is a fine example of taste, for the walks of rural life. How appropriate for a farmer to have his habitation encompassed with trees that are pleasant to the eye and good for fruit, situated in the midst of a garden, where the fruits of his labor may smile upon him, as at noon, amidst the heat of the mid-day sun, he rests awhile from his toil; or in the morning or evening, within his piazza, trellised with vines, he reads the daily news, studies useful books, or meditates on the wonders and mercies of his God.

I ask whether an employment thus directed, by the greatest and best of beings—exemplified by the worthiest of men—calculated to purify the heart, cultivate taste, and nurse devotion, can be wanting in dignity, although its votary may go forth to his work in the broad-brimmed hat of straw, or in the soiled and unsightly frock of hemp or tow; I do not undervalue any honest and honorable walk of life; but I may affirm, that all are dependent upon and therefore subordinate to the business of the cultivator. The powers of the mind cannot be exerted without strength in the body. However the man of simple study may think himself raised above the gross connections of sense, yet he must eat—he cannot subsist on the unsubstantial productions of his genius—he must have that bread which is gotten by the sweat of the farmer's brow.

However the merchant, with bleached hands and well lined purse, may contain the hard toil, brown visage, and moderate gains of the farmer, yet would his store-houses contain "a beggarly account of empty boxes," if it were not for the grain and raw material, which the strong sinews and diligent exertions of the husbandman had produced. The mechanic, as he plies his profitable toil in the well enclosed shop, shielded from heat in summer and cold in winter, may congratulate himself that he escapes the hardships of the farmer, as in summer he pants under the direct rays of the sun, or amid winter's snow he cuts his wood or quarries his stone, or carries his products to market; but equally destitute would the mechanic be of the materials he works, or the food that keeps him alive, if the tiller of the ground should cease his labor. This is, then, manifestly the primary employment of man—first in order—first in necessity and importance. Before science had struggled into birth—before mechanics had studied out the form of the spade, or the invention of the plow, husbandry had begun to supply the wants of man. And as science and mechanical skill arise, it challenges for itself a study profound as theirs, and claims them not as leaders but as mere auxiliaries.

Agriculture implies and subjects the sciences and the arts. The farmer by vocation, also partly a shepherd, as at early dawn he goes forth, when the stars are still shining, or at eve when he houses his flocks and herds, and as he finds that certain influences of the heavens modify things on earth, becomes a practical astronomer, and ought to be a scientific one. His business involves the laws of chemistry, botany

and geology. By the last, he is to judge of soils and their fitness for certain products; by the second he must determine what plants are most suitable to his soil and climate; by the first he must be instructed in that most important branch of knowledge to the farmer, the nature and composition of manures, and their fitness to the several kinds of grain and fruits he proposes to cultivate. The laws of mechanics are before his eyes every day. With the crowbar in hand, he daily employs the lever; under his barrack you will find the screw, which he uses every day when he elevates its roof. Go with him to the forest and see him use the inclined plane and pulley, as he heaves the rail cut on his sleigh or waggon, or the wedge as he cleaves it into fencing stuff. At the pent stock, near his door, where he waters his cattle, he studies the first problem of hydrostatics. Perhaps by the sulphur spring that bubbles along the margin of the meadow, he may be led to think on mineralogy. Thus does his science stand at the head of the honored catalogue; or if there is a circle of the sciences, ours is the centre around which the rest are ranged.

The profession of the farmer has suffered by both extremes of theory and of practice. Some mere theoretical farmers have pursued their visionary notions of book farmers so far, as to make themselves the laughing stock of all sensible men, and have, in the end, brought ruin upon themselves and disgrace upon theory. Others who have been mere practical farmers, have so stubbornly adhered to the customs of past generations, as to reject the valuable discoveries of science, proved by experiments, and thus have dragged half a century behind the age, and lost half the profits they might have made. It will be evident that the perfection of our art lies in the golden medium between these extremes. Let all theoretical suggestions be tested by experiments on such a scale as to show their value, without endangering the main interest of the farmer; and then when their own observation shall have distinguished between the visionary and the valuable, they will be prepared with confidence to reject the one and to adopt the other. Then only, when agriculture shall have the boundaries of theory and practice well defined, the laws of each well understood, and the system distinctly settled and set forth, will it rise in the estimation of a discerning public, to the level of the professions of law, physic and theology.

But this great object can be effected only by liberal, energetic and concerted action. The patrons, admirers and friends of agricultural improvements, must unite with the practical farmers of the state, in endowing a normal school and farm in which all the sciences connected with husbandry shall be taught, and where the best modes of tillage shall be exemplified. I could not give a suggestion as to the size of the farm, or the scale of expenditures in the school, but I may observe in general, that the location should be central and easy of access; the land should be so chosen as to unite specimens of the several soils from the pure sand to the pure clay; the buildings should be models for a farming establishment, only that they should be sufficiently extensive to accommodate professors, students, and laborers. To commence, one professor of the theoretical branches, and one able practical farmer might be sufficient. Here, young gentlemen intended for agricultural pursuits should spend a year or more, studying and laboring alternately, until they were masters of the theory and practice. To accomplish this project, all necessary legislative aid would be readily granted, whenever the legislature should perceive by the liberality of private donations, and the earnestness and number of petitions, that a great body of their constituents demanded such a measure. Of the necessity and benign effects of such an institution there can be no reasonable doubt. For if skill in farming is no more intuitive to man than dexterity in mechanical operations, then it is as necessary that he should be carefully taught the one as the other. And if knowledge and competence be important elements in our temporal happiness, then the institution which furnishes the surest means of attaining them is one of the highest interest to man. And how many blessings would it diffuse through society, if a cultivated mind should elevate the laboring man above low pursuits; and well directed industry should fill his barn and his larder with plenty.

The success of this Society must be a source of pride and gratification to us all. The position it has assumed in the community—the interest it imparts to the cultivator of the soil, may well inspire emotions of exultation. It is an object of too great importance to be suffered to decline. But on us, fellow-members, the charge especially devolves; and we are called upon to cherish its interests, to promote its prosperity. But the progress of the time, and other exercises which will claim attention, admonish me to close this address.

It only remains, gentlemen, that I should congratulate you on the abundant encouragement with which a benign Providence has crowned our labors through the past year. Our country overflows with the productions of the farm. Our barns are pressing out, our store-houses are filled with plenty. The voice of gladness has rung through the land. Gentlemen, I have no doubt you will cordially join with me in giving thanks to that Almighty Parent who rules the changing year, makes the sun to shine, the rain to descend, clothes the fields with beauty and abundance, and fills our houses with comfort. Gentlemen, I fervently wish that He may grant many blessings to you, and prosperity to our cause.

Professor AMOS DEAN, of Albany, having been selected by the Society, to prepare a Memoir of the late Hon. JESSE BUEL, pronounced the following

Eulogy.

The treasures of the Republic are to be found in the worth, the virtues, the intelligence, and the integrity of the citizen. He alone sustains the burdens, as he receives the benefits, of all our institutions, our frames of government, our plans of policy.

The mere citizen, uncontrolled by higher powers, and unaided by adventitious circumstances, has been, in truth, but a recent actor in the affairs of our world. The great instruments of change in the political condition of nations, have been principally the slave and the subject. In the revolutions that have waited upon human affairs, we have witnessed almost every thing dominant in its turn. The despot, the demagogue, the monarch, the aristocrat, have each and all had their day of trial and of triumph. Let the honest, intelligent, unpretending citizen now have his. He claims it in

view of his importance in our social, civil, and political edifice; in virtue of the policy and spirit of our institutions; and in consequence of the many examples of real worth and merit which he is enabled to bring forward.

Among the most prominent of these, is the name of the late esteemed and lamented JESSE BUEL; a name which must ever furnish a fitting theme for eulogy wherever intelligence is prized, or well directed industry respected, or high moral worth meets with its due appreciation. Since the last annual meeting of your Society, he, who so justly constituted its pride and its ornament, has passed from among us. It has been deemed proper at this time and place, to pay a tribute of respect to his memory; and surely, if his name and deserving worth be any where entitled to consideration, it is here and by you.

In reference to his individual history, I propose to be brief and general, conscious that although the partiality of friends may dwell with deep and intense interest on minute particulars, yet that the attention of the public generally, ought rather to be directed to such facts as may instruct by their practical application to the common affairs of life.

The subject of these remarks was born in Coventry, in the State of Connecticut, on the fourth day of January, 1778. He was the last born, and the last that has died, of a family of fourteen children. His father, Elias Buel, held the commission of Major in the war of our revolution, and was a fair sample of the plain, unassuming, straight-forward character of the New-England farmer.

As an instance in proof that the end of the good man is peace, it deserves to be mentioned, that the advanced years and declining strength of this excellent sample of New-England's earlier population, together with his aged consort, received for the last five years of their lives, their stay and support from the filial affections of their youngest child; until, fully matured, and at the advanced age of 86 years, they both left this world, and as if their union had become indissoluble by bonds that had been tightened by nearly three-fourths of a century, they left it within the brief period of six weeks of each other.

From early boyhood, Judge BUEL seems to have had the direction of his own course; his parents wisely leaving to his own disposition and inclinations, the choice of that which should mainly constitute the business of his life. In this it is to be hoped they have many imitators. Let young, unsophisticated nature always speak its own language, and follow its own original bias, and success will be likely to reward its exertions. When he had arrived at the age of twelve years, the family, including himself, moved from Coventry to Rutland, Vermont, and two years afterwards, when he had completed the age of fourteen, he became an apprentice to the printing business, in the office of Mr. Lyons of Rutland.

When the youth, possessing the qualities that are to enable the future man, has silenced all mental debate by his irrevocable determination as to what particular pursuit or calling the great energies of his life shall be devoted, he immediately applies himself with unwearied ardor and assiduity, to carry into full effect his firm, high, undeviating resolve.

The young apprentice distinguished the first four years of his term by a close, assiduous, and unremitting attention to the attainment of the printing art. At the end of that period, such had been his devotion to business, that he had acquired as perfect a knowledge and mastery of the routine and all the details of that art, as are ordinarily acquired by others during the entire term of their apprenticeship. Conscious of the sufficiency of these attainments, and entertaining a realizing sense of the immense value of time, especially to the young, he succeeded, at the expiration of the first four years, in purchasing of Mr. Lyons the unexpired three years of his regular term, and thus at the age of eighteen he was ready to exchange the apprentice for the journeyman; and to earn, in the latter capacity, sufficient to pay the expense of the exchange. He immediately found his way to the city of New-York, and was there laboring as a journeyman during the desolating ravages of the yellow fever. He subsequently worked as a journeyman with Mr. McDonald of this city, and was a short time at Waterford and Lansingburg, until June 1797, when he formed a connection in business with Mr. Moffit, of Troy, and commenced the publication of the Troy Budget. This was continued until September, 1801, when, at the age of twenty-three, he married Miss Susan Pierce, of Troy, and immediately removed to Poughkeepsie, where, in connection with Mr. Joiner, he commenced the publication of a weekly paper, called the Guardian. This was continued about a year; after which, he entered into another co-partnership, and commenced the publication of the Political Banner. This last proved to be an unfortunate business connection; and after about a year's continuance, either through the mismanagement or dishonesty of his partner, he found himself reduced to utter bankruptcy.

This is, I am sorry to say, rather a common history; and many, thus situated, abandon hope, and yield themselves up to fatal despondency. Not so Judge BUEL. With the unshaken assurance of success which naturally results from the firm determination to deserve it, he saw, with apparent indifference, the slow, labored, and rather scanty accumulations of some six or seven years suddenly swept from him; and read, in this lesson of mutability, at least the chance of elevation, as well as depression, in individual condition. He never, for one moment, lost confidence in the general integrity of men, nor in the ultimate success of industry and application. He left Poughkeepsie and removed to Kingston, where he established a weekly paper called The Plebian. Here he continued during the period of ten years, from 1803 to 1813, applying himself with diligence and activity to his business. During a part of this time, he sustained with reputation the office of Judge, in the Ulster county court; and by his persevering industry, and well directed application, he not only retrieved his losses, but also acquired some considerable real and personal estate.

In 1813, his reputation as an editor and a man having made him favorably known to the public, he was induced, through the exertions of Judge Spencer and some others, to remove to the city of Albany, and to commence the Albany Argus. The next succeeding year, 1814, he was appointed printer to the State, the duties of which, together with the editorship of the Argus, he continued to discharge until the year 1820; at which time he sold out with the determination to abandon the printing business.

It is worthy of remark, that while engaged in this business he always performed himself the labor essential to its successful prosecution. He was always the setter of his own type, and, until he came to Albany, the worker of his own press. Is there not something in the very nature of the printing art, that tends to originate and perpetuate habits of severer industry than any other occupation or calling?

After disposing of his printing establishment and business, he purchased a farm of eighty-five acres of land near the city of Albany, which then helped to compose that tract of land lying west of the city, and appropriately denominated the "Sandy Barrens." That which, for some years past, has been so extensively and favorably known as the "Albany Nursery," then lay an open common, unimproved, covered with bushes, and apparently doomed to everlasting sterility. These unpromising appearances, which, to a common mind, would have presented insuperable obstacles, served to increase the efforts, rather than damp the ardor, of Judge BUEL. Difficulties, hindrances, obstructions, were with him every day familiars. His mind had been, in some measure, formed under their influence. He recognized and acted on the doctrine, that where God has done little it is incumbent on man to do much; and that nothing in this world is ever lost by courting situations, that require the expenditure of unremitting effort. Man was made to labor, both corporeally and mentally, and his happiness in life depends much more than he is generally aware of, on the strict obedience which he yields to this primal law of his being.

On this farm he continued to reside until the time of his death. Under his untiring and well directed industry, the most unpromising indications soon disappeared, and as a practical commentary upon the truth of his agricultural doctrine, and in proof that he in reality practised what he preached, it may be mentioned that the same acre of land, which in 1821 he purchased for \$30, is now worth, at a moderate estimate, \$200.

While residing on his farm, since 1821, he has several times represented the city and county of Albany in the popular branch of the legislature of this State; has been for several years, and was at the time of his death, a Regent of the University; and in the fall of 1836, received the whig support as their candidate for the office of Governor of the State of New-York.

On the political course of Judge BUEL, I do not design to enlarge. He was a believer in the old fashioned doctrine, that office, instead of being made for men, should be made by them; that it conferred far less privileges than it imposed duties; that it was a trust reposed, and the incumbent a trustee, and responsible for the proper performance of the trust; that instead of operating as a license to live and fatten on the public spoil, without the necessity of labor, it imposed the severe obligations of more incessant effort, and of acting under deeper and heavier responsibilities; and that it was no further honorable than as an indication of trust and confidence on the part of those, whose intelligence and moral worth were the vouchers for its value. The introduction of many modern improvements, is tending to render that doctrine somewhat antiquated, and to diminish the number of its adherents.

Mere political pre-eminence is, at best, extremely equivocal. It may be ennobled by the solid qualities of the statesman, or debased by the crafty arts of the politician. Its highest attainable summit, has been not inaptly compared to the apex of a pyramid, which can be reached by the soaring eagle, or the crawling reptile. The durable reputation of JESSE BUEL depends on that which politics can neither give nor withhold; which is at a high remove above the little tricks of little men; which is far beyond the reach of the aristocrat, and above the highest possible conceptions of the mere demagogue. It reposes on that strong sense of obligation that a people feel themselves under, to a high and gifted mind exerted for their benefit. It is the grateful homage rendered by mind to mind; the most desirable, the most enduring, the most esteemed, of earthly homage. It arises from the feeling of benefits conferred on the one side, and received on the other. It serves to connect the great mass of man with the few master spirits, who are pioneering onward in advance of their age. The highest mere political distinctions dwindle into insignificance, when compared and contrasted with this highest attainment of a laudable ambition. To those acquainted with the arcana of politics it will be sufficient to observe, that JESSE BUEL never merged the man in the politician; that he never gave up his independence of thought, of expression, or of action; and that he preserved throughout that perfect integrity of purpose, that never, through his whole life, ceased to be the guide of his action. To those ignorant of such arcana, I can only say, that

"Where ignorance is bliss, 't were folly to be wise."

It is in the labors of Judge BUEL in the advancement of agricultural and horticultural pursuits, particularly the former, that the people of this Union have a deep and abiding interest. He retired to his farm at the age of forty-three; a period of life when the mind has attained the full maturity of its varied powers. He carried with him a sound body, the result of a good original constitution, of strictly temperate habits, and much active exercise in the prosecution of his business; and a mind well stored with valuable information, of a character the most available for the common uses and purposes of life. So far as his pecuniary circumstances were concerned, he might at this period of time, have been justified in dispensing with further labor either of body or mind. He was no longer compelled to act under the spur of necessity. But his ready perceptions, and accurate feelings, convinced him of a truth, which others are often doomed to acquire from sad experience—that a life of labor is, of all other kinds of life, the last that should be terminated by an age of inactivity. Men violate the laws impressed by God upon the condition of things, when they assign to their declining years an inglorious ease in the expenditure of that fortune, which the successful industry of their manhood had accumulated. There is also in all highly gifted minds, that are endowed with clear, strong intellect, combined with conscientiousness, a deep feeling of responsibility for the due exercise of their powers, in a manner the most advantageous to their fellow-men. God has placed a double safeguard over the advancement of man, by leaving the means that conduce to it, in charge both of the impulses that originate from self, and of the promptings derived from his high moral nature.

The mind of Judge BUEL, fortunately had the sagacity to perceive both where his industry was the most required, and could be rendered the most available. Of the three great interests that divide between them the labors of men, viz.—the agricultural, the mechanical and manufacturing, and the commercial; it is not difficult to perceive that the first has long been the most important, and the most neglected. The last, or commerce, is much dependent on the other two, and may always be expected to flourish where either agriculture, or mechanical and manufacturing arts yield their multitude of products. Between the other two, there is a mutual dependence; agriculture furnishing the supports of life, and the mechanic arts, in their turn, supplying the instruments of agriculture. Of these two, the mechanic arts had received relatively much the most attention. To advance them, man's ingenuity and inventive powers had been severely tasked; and science was required to furnish its contributions; and the devising and employment of labor-saving machinery attested in a variety of instances, the triumphs of mind over the inert materials every where abounding in nature. But while the mechanic and manufacturing arts were thus prospering, agriculture was allowed to labor on unaided, and unenlightened in the knowledge of itself. The new and virgin earth on this continent, that had been for ages rearing and receiving back into its bosom the tall tree of the forest, and the waving grass of the prairie, required, at first, in many places, but a small quantity of labor to ensure ample returns. When the soil began to give evidence of exhaustion, instead of attempting its restoration, new fields were brought under the dominion of the plow. The great mass of agricultural population, so far as their business was concerned, were little more than creatures of habit. Men lived, and labored, and trod the same paths and performed the same circles of action, with scarcely a single well settled principle for their guide, except that the same field ought not to be taxed to grow two successive crops of flax. The principal, and almost the sole object in view, was to realize as great immediate returns as possible from the smallest amount of labor, without any regard whatever to the exhausted condition in which they might leave the soil; much like the traveler, who seeks the accomplishment of a long journey, by driving so far the first day as to destroy his horse.

The new system of agriculture, with which the name and reputation of Judge BUEL is essentially identified, consists in sustaining and strengthening the soil, while its productive qualities are put into requisition; in rendering the farm every year more valuable, by annually increasing both its products and its power of producing; like the traveler, who instead of destroying his horse the first day, should so regulate his motion, and administer his supplies of food, as to enable him to make additional progress every successive day, until the completion of his journey. This new system—new I mean in this country—has been principally carried into effect by manuring, by draining, by good tillage, by alternating crops, by root culture, and by the substitution of fallow crops for naked fallows.

In testing the principles embraced in the new system, Judge BUEL first made the practical application to his own farm. He compelled his sand-hills to stay at home, and be less obedient to commotions in the atmosphere. He was particular in observing the effect produced upon the soil by his mode of management. After satisfying himself by actual experiment, of the truth and advantages of the new system, he became desirous of rendering it as generally known as possible. With that view, the paper, now so well known as "The Cultivator," was first commenced under the auspices of the State Agricultural Society, in March, 1834. A committee of publication, consisting of Jesse BUEL, Doctor James P. Beekman, and James D. Wasson, were appointed by the society, and under their direction, Judge BUEL being the real editor, "The Cultivator" first made its appearance in the form of a small sheet, issued monthly, and at the very moderate price of twenty-five cents a year. So little, however, did it become known; so very deficient was the taste for reading on agricultural subjects; and, consequently, so extremely limited was its circulation, that the same volume, which has since passed through three editions, and now reposes on the shelves of more than 24,000 American farmers, was found, at the end of the year, to have accumulated a debt, over and above its receipts, of nearly five hundred dollars. Entertaining, however, a thorough conviction of the utility of the undertaking, and never doubting its ultimate success, he made an arrangement with the society, by which he became sole proprietor of "The Cultivator," assuming the payment of all its debts and liabilities. The superior merits of the paper soon began to render it more generally known. It was found necessary to enlarge it, and to increase the price to fifty cents per annum. Notwithstanding the increase in price, the subscription list for the fourth volume, published from March 1837, to March 1838, amounted to 23,000. It was then deemed expedient, still further to enlarge and improve, and accordingly in March 1838, at the commencement of the fifth volume—a larger, more expensive, and better executed sheet was issued at the subscription price of one dollar per annum. This increase in price, at first, diminished very considerably the number of subscribers. They were, however, gradually increasing, and, at the time of his death, amounted to about 16,000.

We might naturally expect that a mind thus active and gifted, could not long continue to exercise its powers, without acquiring a more or less extended and solid reputation. The new and vigorous impulse he was giving to agriculture and horticulture, awoke to activity a kindred spirit in the breasts of his countrymen. This call to renewed agricultural efforts, met with a corresponding response from many portions of the Union. Societies, devoted to agriculture and horticulture, originated in various sections of our country; and among their first acts has usually been the recognition of their obligations to JESSE BUEL, by electing him an honorary member. As examples of this, and also to show the laudable efforts that have been made to form agricultural and horticultural societies, I would mention the following:

In 1821, he was elected a member of the Massachusetts Agricultural Society; in 1829, of the Horticultural Society of that state; in 1839, of the Monroe Horticultural Society at Rochester; in 1831, of the Charleston Horticultural Society, in South Carolina; in 1832, of the Hampshire Franklin and Hampden Society, in Massachusetts; and of the Hamilton County Agricultural Society, at Cincinnati; in

1833, of the Tennessee Agricultural and Horticultural Societies; in 1834, of the Horticultural Society of the District of Columbia; in 1838, of the Philadelphia Society of Agriculture, and in 1839, of the Albemarle Agricultural Society. In 1838, he was chosen President of the Horticultural Society of the Valley of the Hudson. He has several times been elected President of the State Agricultural Society.

Distinctions, similar to those already mentioned, have been conferred upon him by foreign and trans-atlantic Societies. In 1333, he was chosen a corresponding member of the Lower Canada Agricultural Society; in 1834, of the London and New-York Horticultural Societies. In 1830, he was chosen an honorary member of the State Society of Statiques Universelles, at Paris; and in 1836, he was chosen a corresponding member of the Royal and Central Society of Agriculture, at Paris.

Let it, however, by no means be supposed that Judge BUEL's mental efforts were confined exclusively to agriculture and horticulture. In his view, man was born for higher purposes than merely to produce and consume the products of the earth. The motto to his Cultivator, was "To improve the soil, and the mind." Of what real utility are all the enjoyments of mere physical existence, unaccompanied by the higher delights of a mental being? No man more fully realized the force of this than Judge BUEL. His system of education, however, like his system of agriculture, was eminently practical; and like that, too, it would endeavor to strengthen the producing power while it developed its products. He would guide the effort of muscle by the direction of mind. While cultivating the land he would enjoy the landscape. While caging the bird, he would not be insensible to its music. The numerous valuable hints and suggestions on the subject of education, that occur in his Cultivator and other writings, evidence the soundness and correctness of his views on that all important subject.

The efforts of Judge BUEL have greatly tended to make honorable, as well as profitable and improving, the pursuits of agriculture. He clearly perceived that to render the farming interest prosperous, it must stand high in the public estimation. So long as it was conceded to be an occupation that required little more than mere habit to follow, and that it was indifferent to success, whether the man possessed great intellectual power, or a mind on a level with the ox he drove, it could not be expected that any would embark in it unless necessity compelled them, or the very moderate extent of their mental bestowment, precluded any reasonable chance of success in any other. He taught men that agricultural prosperity resulted neither from habit nor chance, that success was subject to the same law in this, as in other departments of industry, and before it could be secured, must be deserved; that mind, intellectual power, and moral purpose, constituted as essential parts in the elements of agricultural prosperity, as in those of any other; and all these truths he enforced by precept, and illustrated by practice. By these means he has called into the field of agricultural labor a higher order of mind; has elevated the standard of agricultural attainment; and has tended to render this extensive department of industry as intelligent, respected, and honorable, as it ever has been conceded to be useful, healthy, and independent.

Thus gifted, esteemed, beloved, distinguished, and in the enjoyment of a reputation co-extensive with the agricultural interest in this country, it would seem, that if life were a boon worth possessing, he had almost earned a long and undisturbed enjoyment of it. But the dispensations of God to man are full of mystery. Religion and reason here teach the same lesson—to observe, adore and submit.

He had accepted invitations to deliver addresses before the agricultural and horticultural societies of Norwich and New-Haven, Connecticut, on the 25th and 27th of September last. About the middle of that month, he left this city for that purpose, accompanied by his only daughter. On Saturday night, the 23d of September, at Danbury, Connecticut, he was seized with the bilious cholera. This was extremely distressing, but yielded, within three days, to the force of medical treatment. A bilious fever then supervened, unaccompanied, however, by any alarming symptoms until Friday the fourth of October. His disease then assumed a serious aspect, and a change was obviously perceptible, particularly in his voice. He had occasionally, during his sickness, expressed doubts of his recovery, although his physicians up to the fourth of October, entertained no serious apprehensions that his disease would terminate fatally. He retained throughout the full possession of his mental faculties, and expressed his entire resignation to the will of Heaven. He continued gradually to decline from Friday until about three o'clock in the afternoon of Sunday, when, after faintly uttering the name of his absent companion, with whom he had shared the toils, and troubles, and triumphs, of almost forty years, he calmly, and without a groan or a struggle, cancelled the debt which his birth had created, and "yielded up his spirit to God who gave it."

We involuntarily pause at the termination of the good man's earthly career, and almost imagine ourselves entitled to catch some feeble or imperfect glimpse of his departing spirit, as it speeds its way to the source of light and of love. He died in the very field of his labors; in the midst of his usefulness; in the full maturity of his mental faculties. No symptom of decline had evidenced a waning spirit, nor had the touch of decay impaired the strength, or disturbed the harmony, of his mind.

He left behind him the companion of his earlier and later years, and four children to mourn their bereavement; an extensive circle of warmly attached and devoted friends to deplore their loss; a whole community deeply to regret his removal, and entire interest, constituting the key stone in our social and civil arch, to lose the benefits of his untiring efforts. Such a death succeeding such a life, occurring at such a time, and under such circumstances, most forcibly exemplifies that beautiful sentiment of the poet, that

"Life lies in embryo, never free,
Till nature yields her breath;
Till time becomes eternity,
And man is born in death."

All that remains for us is to cherish his memory; to imitate his virtues; and to avail ourselves of his labors. He was himself a practical illustration of republican simplicity. Always plain in his dress and appearance; unassuming in his manners; unostentatious in the extreme; he was hospitable, without display; pious, without pretension; and learned,

without any mixture of pedantry. His was a character of the olden time, and formed on a noble model. With a proper estimate of what was due to others, he united accurate conceptions of what he was justly entitled to receive from them. His principles of politeness were not learned from the writings of Lord Chesterfield; nor were they derived from those higher circles in society, where, too frequently, artificial rules chill the warmth of social feeling, and the play of our faculties, which, beyond all other things, should claim exemption from restraint, is reduced under the worse than iron bondage of heartless forms; where a mistake in manners is even less pardonable than a fault in morals. His politeness flowed directly from his character; and was the natural expression of a happy combination of faculties. He was frank in his communications, because he was so constituted by nature, and had, in fact, nothing to conceal. Although more than threescore years had passed over him, yet the consciousness of a blameless life removed all restraint upon the freedom of his intercourse.

The character and general habit of his mind was, in the highest degree, practical. The value and importance he attached to a thing, were deduced from his estimate of its use; and those uses consisted of the number and importance of the applications which he perceived could be made of it, to the common purposes of life. He regarded life as being more made up of daily duties, than of remarkable events; and his estimate of the value of a principle, or proposed plan of operations, was derived from the extent to which application could be made of it to life's every day matters. He presented the rare occurrence of a mind originally conversant with the most common concerns, arising, by its own inherent energies, from them to the comprehension of principles, and coming back and applying those principles to the objects of its earlier knowledge.

As a writer, the merits of Judge BUEL have already been determined by a discerning public. It is here worthy of remark, that he never had but six months schooling, having enjoyed fewer advantages, in that respect, than most of our farmers' and mechanics' sons. He, however, had the good fortune to possess a mind that could improve itself by its own action. Although, therefore, he lacked the advantages of that early education, which can polish, point, and refine good sense where it happens to be found, and endeavors to supply its absence by some imperfect substitute, where it is wanting; yet by dint of study and practice, and of strong original endowment, he succeeded in the attainment of a style excellently well adapted to the nature of his communications. It consisted simply in his telling, in plain language, just the thing he thought. The arts of rhetoric; the advantages of skilful arrangement in language; the abundant use of tropes and figures; he never resorted to. He seemed neither to expect or desire, that his communications would possess with other minds any more weight than the ideas, contained in them, would justly entitle them to. With him words meant things, and not simply their shadows. He came to the common mind like an old familiar acquaintance; and although he brought to it new ideas, yet they consisted in conceptions clearly comprehensible in themselves, and conveyed in the plainest and most intelligible terms.

His writings are principally to be found in the many addresses he has delivered; in the six volumes of his Cultivator; in the small volume (made up, however, principally, or entirely, from materials taken from the Cultivator,) published by the Harpers of New-York; and the "Farmers' Companion," the last and most perfect of his works, containing within a small compass, the embodied results of his agricultural experience, a rich legacy to which the great extent of our farming interest cannot remain insensible. This work was written expressly for the Massachusetts Board of Education, and constitutes one of the numbers of the second series of that truly invaluable District School Library, now issuing, under the sanction of that Board, from the press of Marsh, Capen, Lyon & Webb, of Boston; which for the extent of the undertaking; the great caution exercised in selecting the material; the talent enlisted in furnishing it; and the durable manner in which the books are executed; so richly deserves the patronage of the whole American nation. I deem it really the most fortunate circumstance in his life, that he should have been permitted, so immediately previous to his departure, to furnish just this volume, for just this purpose; and I shall confidently expect that the coming generation will be better farmers, better citizens, and better men, from having had the formation of their young minds influenced, to some extent, by the lessons of experience and practical wisdom, derived from the last, best, most mature production of this excellent man. The several district schools throughout our state, will, undoubtedly, feel it due to the important trusts they have in charge, to secure this among other valuable publications, to aid in composing their respective District School Libraries, from which so much good is expected to be derived.

The example of Judge BUEL affords practical instruction as well as his works. There is hardly a situation or condition in life, to which some incident, event, or portion of his existence, does not apply with peculiar force, and afford much encouragement. To the wealthy, those who by successful industry, have accumulated competent fortunes, it teaches the salutary lesson that continued happiness can only be secured by continued industry; that the highly gifted mind must feel a responsibility for the legitimate exercise of its powers; and that, when the requisite capacity is possessed, the one can be the most effectually secured, and the other satisfied, by communicating to the minds of the young, the results of a long experience, of much varied observation and accumulated knowledge, and many original and profound reflections upon men and things.

To those who have sustained losses, been unfortunate in business, and had the slow accumulations of years suddenly swept away by accident, misfortune or fraud; it teaches the important truth, that,

"In the lexicon of youth, which fate reserves
For a bright manhood, there is no such word
As FAIL."

that undaunted resolution, rigid economy, close calculation, prudent management, aided by renewed application, and well directed, persevering industry, can never fail, except in cases very uncommon, to retrieve their circumstances, restore their condition, and, by the excellent habits they create, to send them forward on the mutable course of life, with

fresh assurance, renewed hope, and more confident anticipations.

To the youth, who has just commenced threading the devious paths of young existence; who is beginning to open his senses and his faculties to the appreciation and enjoyment of the aliment with which God has furnished them; it speaks a language at once impressive and inviting. It presents the instance of one from among them, born in poverty, having all the hardships, obstacles, and disadvantages so frequently occurring in early life to contend with; with no other inheritance than a sound mind in a sound body, working his way onward and upward to the esteem, respect and confidence of his fellow-men. There have been no peculiarly favorable combinations of circumstances, to contribute to his progress and advancement. No miracle has been wrought in his favor, nor arts of magic enlisted in his aid. Nothing whatever has contributed to remove his case out of the empire of that same cause and effect, in subjection to which, all the phenomena of life are evolved. It is the obvious case of distinction and a high reputation, acquired and earned by the most persevering industry; the most scrupulous regard for right; the exercise of superior intellect; the practice of every virtue; and its plain, practical language to the youth of our land is—"Go thou and do likewise." You are supported by the same soil; overhung by the same heavens; surrounded by the same classes of objects, and subjected to the action of the same all-pervading laws. Would you possess the same good? Acquire it by a resort to similar means.

To all, it addresses a consoling language, in the fact that we here see industry recompensed; unobtrusive merit rewarded; intellectual action accomplishing its objects; high moral worth appreciated; and the unostentatious virtues of a life, held in due esteem, respect and consideration. This tends to create a strong confidence in the benignity of the laws that regulate human affairs; to inspire a higher degree of respect and reverence for the constituent elements of human nature; and to give birth to that sentiment strongly embodied in the language—God, I thank thee that I am a man.

On motion of Mr. J. J. Vile,

Resolved, That the thanks of the Society are due to the Hon. Mr. VAN BERGEN, for his interesting Address, and to Professor AMOS DEAN, for his able Eulogy, this day pronounced, upon the late JESSE BUEL; and that a committee of three be appointed to communicate with them, and to solicit copies of the same for publication.

The chair appointed Messrs. Vile, Walsh, and Beckman a committee for that purpose.

On motion of Mr. A. Walsh,

Resolved, That a committee of three be appointed to address the widow of our late revered and lamented President, Judge BUEL, a letter of condolence, expressive of our deep sympathy in her bereavement, and our sense of the great loss which this Society, our whole country, and the world, have sustained by that dispensation which has removed him from the midst of us, at the period of his greatest usefulness to mankind.

Messrs. Walsh, Dean, and Beckman were appointed on said committee.

Mr. J. P. Beckman, of Columbia, from the committee to report on the tillage proper for the different kinds of soils, made the following report, which was read, and ordered published:

Management of Gravelly Soils.

MR. PRESIDENT:—At the last meeting of the Society I was appointed with yourself and the deceased Judge BUEL, to report "on the tillage proper for the different kinds of soils, such as Clay, Sand, and Gravel." The last, of the different kinds of soils, having been assigned to me to report upon separately, I beg leave to present this as my report. The term gravel, in agriculture, is commonly applied to a well known material of the small stony kind, the size of the particles of which, vary from those of small peas to large lumps. A gravelly soil is always intermixed with other matters, such as sand, clay, loam, flint, or iron ochres. The tillage, proper for a gravelly soil, depends not alone on the superficies of that soil, but in a great measure, on the peculiar circumstances, and the localities in which that soil is placed. For instance, if by the term is meant an open soil, made up of small and rounded stones, which are found scattered on high situations upon the surface of the earth, such a soil may require one kind of management; but if it is meant, these same kind of stones near the margin of streams—they will, in the first instance, require a different kind of management; and then again, if, by a gravelly soil, is meant, where the stones are mostly of a small size, with their edges ground smooth by attrition, and intermixed with sand or clay, each of these kinds will require a tillage peculiar to itself. In some instances, I have known even gravelly soils in peculiar localities, to require draining from superabundance of wet, (by being situated in low places, or in the neighborhood of springs,) before they could be tilled with any kind of advantage. I do not think that it is expected from me, to treat of the most profitable tillage each of these different kinds of gravelly soils may require. I will therefore treat of the tillage of that peculiar kind of gravelly soil, with which I am most familiar, which is a mixture of sand and gravel, and which enters into the composition of the plain north of the village of Kinderhook.

On this plain which is several miles in extent, and generally level, yet tolerably well watered in the low spots, the soil is a mixture of sand and gravel. In some places, on the surface, the one kind predominates, and in other places the other; but proportionally valuable for cultivation, as the sand predominates over the gravel. The whole stratum rests first, on coarser gravel, and next, on a stiff blue clay. This land was originally considered very sterile. The first crop, taken after a

clearing, was generally one of wheat, which was commonly light: then it was succeeded by crops of rye for succeeding years, until the soil became perfectly exhausted, when its cultivation was entirely suspended, from the fact that it would produce little else than wild vines and sorrel. The land was then considered almost valueless, and it was sold at about two dollars per acre.

All the varieties of stable manure, we know are valuable to all kinds of soil, and can reclaim the most sterile, if only enough is applied; but to make it, requires not only animals, but hay and straw on which to feed them, and litter the yards. As upon this soil, little straw could be raised, and it was too dry and poor for grass, it required no little skill and ingenuity, even to commence the raising of a sufficiency of food for animals, from which even a small quantity of manure could be made. Under any circumstances, the small quantities that could be collected, would go but a little way to reclaim a large tract of land. Under these circumstances, and just at this time, ground gypsum, sown upon the surface, at from one to three bushels to the acre, was introduced to the farmers. It was observed that it was particularly valuable, when applied to the soil, after the sowing of the different kinds of clover; that it not only caused the more sure germination of the seeds, but that the produce from it was very greatly increased. The experiment was made with the peculiar kind of soil now under notice, and clover and plaster were found to answer the purpose remarkably well. The quantity of clover, so raised, gave abundance of food to stock in summer, through all, but very dry weather, and much could easily be collected for winter use. It was soon ascertained, likewise, that this crop of grass had a peculiarly favorable effect in fertilizing the soil, and preparing and cleaning it for a grain crop. A clover tilth, turned under with the plow, and the more of it the better, was a good preparation for a wheat, or any other grain crop; and by adopting the plan of yearly dressings with ground gypsum, the frequent seeding down with grass seed, particularly clover, this poor, unproductive and gravelly soil became profitable land for cultivation; particularly if the increased quantity of stable manure, that could now under more propitious circumstances be collected, was carefully gathered and prudently applied. The first impulses towards the regeneration of this soil, was given by the gypsum, that, acting favorably upon the clover, all the subsequent good effects naturally followed. It is a remarkable fact, that gypsum produces the most marked effects on the poorest sand or gravelly soil, and upon plains, where it has not been previously applied. As the land improves from its use and that of other manures, its good effects are not so discernible, until ultimately, from frequent repetition, doubts arise, whether its fertilizing powers have not entirely ceased. Under these circumstances, as it is always a great object that this naturally light land shall be in a constant course of progressive improvement, you must aid it by the application of the increased quantity of stable manures, that previous good crops have enabled you to make. You must likewise relieve it, all in your power, by a judicious rotation of crops; and let not your grain crops follow in too rapid a succession, but give the soil time to recover from its exhaustion occasioned by them. Preserve your pasture lands, as long as they are profitable, for that purpose. Use irrigation, whenever it can be done, as one of the most effectual means to promote vegetation. The free use of marl, whenever it can easily and cheaply be obtained, likewise promises much benefit, as it affords a new stimulus to the growing plant; and by all means, and under all circumstances, practice that judicious and cleanly cultivation, which even the richest soils require to render them sources of comfort and revenue to their owners. The effect of these applications (excepting marl) and this management, I have seen produce the most wonderful effect upon the land I have designated. From its being the most unproductive soil in the country, it is now the most desirable and profitable, and from its being easily worked, and yielding abundantly, its owners, in process of time, have become respectable, intelligent, rich; and it would be a difficult task, even in England, to find, as you may for miles on that plain, in the same distance, better cultivated fields, more comfortable tenements, or more independent persons that fill them. True, in their fences, they cannot compete with the English farmer, but in general appearance, comfort, and easy circumstances, and made so by their own good management and industry, I have not seen the district of country abroad that surpasses them.

That agriculture, in this district of country, can not be farther improved, I do not pretend to affirm: on the contrary, much may yet be done, to make this sandy, gravelly soil more productive, and there may be districts in our state, which yield much more abundantly, even from natural causes; but when we see, that what has been done here, is the work of art, it is a conclusive proof that where man applies his abilities faithfully to the melioration of the soil, a good Providence will watch over and reward him for his perseverance and toil. Lime, to a great extent, has not, to my knowledge, been used as a manure to this gravelly soil. I tried a few loads, a short time since, to test its effects, but as it was difficult of procurement, and its operation, the three years in which it has been applied, not answering my expectations, I have not progressed any farther with it. I saw no benefit from it whatever. Bone, as a manure, has been serviceable, but not to the extent to which European farmers estimate it. My own experience tells me, that when sheep have been littered and fed in a yard, that litter and dung will produce an effect

as decided and satisfactory, as any application of manures I have ever tried. If you can winter a suitable number in a field, so as to keep them constantly there, (having both provender and beds,) it is the best preparative to a crop of corn, inasmuch as no portion of the urine, as well as dung, is lost. This kind of manure is decidedly stronger and better than either fresh or compost manures, made by the other kinds of common farm stock—so much so, that I look upon it as a great desideratum to keep in winter, as many sheep upon it, as I have the means of feeding there. The rotation I have commonly used, has been clover with oats. The next year pasture on the clover—the third year, corn in the spring, or wheat in the fall, on the sod. If put in corn, the succeeding year, oats or barley with clover; or if in wheat on the sod, follow it with corn, potatoes, or turneps, and in the succeeding spring, with clover, and oats or barley, and seed down as before. In the one instance, you have two crops before you seed down; in the other, three.—The stable manure is commonly applied, upon the wheat stubble, for either corn or roots. Mangel Wurtzel is a better crop, on this soil, than Swedish turneps; the first is sown early in the spring, and the plants have commonly obtained their growth when the dry weather of summer commences; whereas turneps by being sown in June, July, and August, being generally dry months, their growth is most retarded, when they are most subject to the ravages of the fly, and from these two causes, they are uncertain crops. I will here state my opinion, that turnep husbandry will not be as profitable here as in England. I ground it on the fact, that our summers are dry in comparison with theirs, and we all know the great effect that rain and humidity have on vegetation.

Mr. J. B. Nott, from the committee appointed to examine and report on Agricultural Implements, made a Report, which was accepted, and ordered to be published. [It will be given in a future number.]

Mr. Nott, from the committee to select subjects to be reported on at the next meeting of the Society, made the following report, which was adopted, viz:

1. On the most approved method of stall-feeding oxen and other neat cattle. [Committee, Wm. H. Strong of Seneca, and A. Van Bergen of Greene.]
2. On converting green crops and other vegetable matters into manure. [Committee, Messrs. Ball and Walsh, of Rensselaer.]
3. On the tillage proper for the different kinds of soils—as clay, sand and gravel. [Each soil to form the subject of a distinct report, and A. Van Bergen to report on clay, and J. Buel on sand and gravel.]
4. On the proper time to cut timothy and clover, and the most approved method of curing the same. [Committee, J. P. Beekman of Columbia, and W. Salisbury of Greene.]
5. On the effects of lime, and its application to different soils. [Committee, Messrs. Viele and Mather.]
6. On the best means of eradicating the Canada thistle. [Committee, Messrs. North and Duane.]
7. On the manufacture of sugar from beets. [Committee, Messrs. Cheever of Albany, and Smith of Washington.]
8. On the comparative economy of employing oxen and horses, in the usual business of the farm. [Committee, Messrs. L. F. & R. L. Allen of Erie.]
9. On the best mode of cultivating the potato. [Committee, Messrs. Whiteside and Bement of Albany.]
10. On the comparative value of potatoes, ruta baga, and mangel wurtzel, as food for cattle and sheep. [Committee, Messrs. Grove and Rotch.]
11. On the value of apples for neat cattle, sheep and hogs. [Committee, Messrs. Mather and Ball of Rensselaer.]
12. On the adaptation of the Windsor or other foreign beans, to the purposes of the American farmer. [Committee, Messrs. Bement, Nott and Bullock.]

The Society then adjourned to the second Tuesday of February, 1841.

A. VAN BERGEN, *Pres't.*

JESSE BUEL, *Sec'y.*

Gentlemen wishing to become members of the State Agricultural Society, can do so by leaving their names with Wm. THORBURN, at his seed store, North Market-street, Albany. Initiation fee, only \$1.00. Members who have not paid their annual dues, can also pay their arrearsages to Mr. Thorburn.

N. Y. State Agricultural Convention.

Assembly Chamber, February 4, 1840.

The Convention was called to order by Mr. J. J. Viele, of Rensselaer, on whose motion the Hon. GEORGE W. PATTERSON, of Livingston, was called to the chair, and JESSE BUEL appointed Secretary pro tem.

On motion of Mr. A. Van Bergen of Greene,

Resolved, That a committee of five be appointed to report suitable names for officers of this Convention.

The chair appointed Messrs. Van Bergen of Greene, Beekman of Columbia, Viele of Rensselaer, Tucker of Albany, and Johnson of Kings, said committee, on whose report the following gentlemen were unanimously appointed officers of the Convention:

ROBERT DENNISTON, of Orange, *President.*

CHARLES E. CLARKE, of Jefferson,

JEREMIAH JOHNSON, of Kings,

DANIEL TOFFEY, of Dutchess,

BENJAMIN ENOS, of Madison,

Vice-Presidents.

LUTHER TUCKER, of Albany, } *Secretaries.*
HENRY D. GROVE, of Rensselaer, }

The counties being called over, about one hundred delegates enrolled their names as members of the Convention.

On motion *Resolved*, That Messrs. Beekman, Bement, Van Bergen, Nott and Bergen, be a committee to report the business to be presented to the Convention.

On motion of Mr. Beekman, Messrs. Duane, Viele, and Buel, were appointed a committee to examine a book called the Farmer's Library, and report upon its merits as a common school book—the book having been submitted by the author for that purpose.

The following preamble and resolution was introduced by Mr. Nott:

Whereas, a bequest has been made to the people of the United States, by the late Mr. Smithson of England, for the purpose of improving the intellectual and moral condition of mankind, leaving it to the Congress of the United States to designate the mode of its application; therefore

Resolved, That a petition, signed by the President and Secretary of this Convention, be presented to Congress, praying an appropriation of a portion of said bequest, for the establishment of an Agricultural School. [Referred to Messrs. Beekman, Morris and Nott.]

The Convention then adjourned to 4 o'clock, P. M. to-morrow.

Assembly Chamber, Feb. 5, 1840.

Mr. Beekman, from the business committee, reported the following resolutions:

1. *Resolved*, That in the opinion of this committee, the culture of silk is an object well worthy its attention, and that a committee be appointed to report upon its present state, and what advancement has been made in it in the United States, in the last six years. [Committee, Messrs. C. E. Clarke of Jefferson, and C. Bergen of Kings.]

2. *Resolved*, That this Convention regard the culture of the sugar beet, with the view to the production of sugar and the feeding of stock, as a branch of agriculture that may be rendered very profitable to the farmer, and that a committee be appointed to ascertain what advances, if any, have been made in the culture of the beet and the making of sugar therefrom, in the United States, and how far it may enter into competition with other vegetables or grains, in the feeding of stock. [Committee, Messrs. J. B. Nott and Wendell.]

3. *Resolved*, That this Convention cause a committee to be appointed, whose duty it shall be to report at a subsequent meeting, if any, and what improvements have been made in the last twenty years in the management of farms, and if so, to what extent it has added to the resources of the state, or the wealth, respectability, intelligence, and comfort of our population. [Committee, Messrs. Beekman and Van Bergen.]

4. *Resolved*, That a committee be appointed to inquire into and report upon the particular method of farming adopted in some of the best cultivated counties of this state, and how far that method would be applicable to other portions of the state. [Committee, Messrs. Viele and Knickerbacker.]

Whereas, doubts have arisen in the minds of some, as to whether there has been any improvement in farming in the last twenty years, and if there has, that it has been owing to natural causes, and not to the advancement of the art; therefore

5. *Resolved*, That a committee be appointed, whose duty it shall be to investigate this subject, and to report what would now be the profits and value of two farms, (say of 100 acres each,) the one cultivated under the present, and the other under the old system. [Committee, Messrs. Gaylord and Bement.]

6. *Resolved*, That this Convention would respectfully urge upon the public, and especially farmers, the great practical utility of reading agricultural papers, as it would add much to their usefulness as farmers and their intelligence as citizens.

The Convention then took a recess to hear Mr. Van Bergen's Address, and Professor Dean's Eulogy before the State Agricultural Society, after which it adjourned to 7 o'clock in the evening.

Assembly Chamber, 7 o'clock, P. M.

The preceding resolutions, from the business committee, from 1 to 6, were severally taken up, and after discussion, adopted, and the several committees annexed to each, appointed.

On motion of Mr. A. Walsh,

Resolved, That a committee be appointed to prepare and present a petition, on the part of this Convention, to the Legislature now in session, for a law to organize a Board of Agriculture, to consist of eight members, one from each Senate District, with an appropriation of \$5,000, for the use of such Board, to be expended in such manner as it may deem most likely to advance the interests of Agriculture.

Messrs. Duane, Walsh, Van Bergen, Beekman and Tucker, were appointed a committee to memorialize the Legislature, pursuant to the above resolution.

On motion of Mr. C. Bergen, of Kings,

Resolved, That as numerous and incontrovertible evidence has been given the past year, of the practicability in this country, to produce silk, to a great and advantageous extent, as evidenced by exhibitions at the American Institute, in the city of New-York, as well as elsewhere; and as the importations for the past, in that article, clearly exhibit that it is one of the greatest drains of our wealth and probably the greatest means of extracting specie from our country—and as it is highly

important for the American people to prevent these evils, it is therefore recommended that some action should be had by the Legislature now in session, to do something more effectually to encourage the production of this elegant article, either by directly offering a proper stimulus to exertion, or by passing resolutions requesting Congress to impose suitable duties, that will afford ample protection to those engaged in this branch of Agriculture.

Resolved, That as the American Institute, of the city of New-York, has, ever since its existence, greatly evinced its usefulness and benefits to the interest of Agriculture, as well as to mechanical skill and the arts, it is therefore recommended that this Convention respectfully suggest to the Legislature the propriety of making at least, a small appropriation to that very useful institution—without which its existence must either be abandoned, or its benefits and usefulness very much diminished.

Mr. Morris, of Westchester, from the committee to whom was referred the resolution relative to the Smithsonian bequest, reported the following resolution, which was adopted:

Resolved, That a committee be appointed to procure the passage of a resolution by the Senate and Assembly of this state, requesting Congress to appropriate a portion of the Smithsonian bequest to the establishment of an Agricultural School, in the city of Washington.

Messrs. J. B. Nott and C. E. Clarke, were appointed said committee.

Mr. Bergen, of Kings, offered the following resolution, which was adopted, and Messrs. T. B. Wakeman of New-York, C. Bergen and Gen. Johnson of Kings, P. Potter of Dutchess, J. J. Viele of Rensselaer, and A. Van Bergen of Greene, were appointed a committee to prepare the report.

Resolved, That a committee of six be appointed to prepare a report on the future prospects of Agriculture, Manufactures and the Mechanic Arts of this state, to be illustrated by such statistics as the committee may deem appropriate, and that the report, when completed, be published in the Cultivator and the Journal of the American Institute.

On motion Mr. Beckman,

Resolved, That the thanks of this Convention be tendered to the President, for the dignified and able manner in which he has presided over its deliberations.

The President responded to this resolution as follows:

President's Address.

GENTLEMEN OF THE CONVENTION—The vote which you have just passed, and the unexpected honor which you have conferred, in calling me to preside over your deliberations, make it necessary for me to return my thanks for this flattering evidence of your consideration.

That agriculture is an un-failing source of individual wealth and happiness, and lies at the very foundation of our national prosperity, all will concede. But while this opinion in the abstract, is readily granted, it must be perceived by all, who have observed the course of events for the last few years, that it has been practically denied.

Commercial pursuits, mercantile business, buying and selling and getting gain, have absorbed the attention of our enterprising youth, and our ambitious men. The occupation of cultivating the soil, though eminently prosperous, has been too tame a pursuit to gratify the excited temperament of the times. Hence our large cities and towns have been constantly draining from the country the choicest of our youth. The old homestead had lost its attractions. The whistling of the ploughman had ceased; discontentment had unnerved his arm and choked his utterance, as he followed his sluggish team. His mind wandered from his business, and dwelt with fondness upon the money-making projects of the age.

But in the course of events, we are called to witness a violent reaction. Mercantile pursuits, overrun and inflated, have proved visionary and fruitless.

We think we do not mistake the signs of the times, when we say, that public opinion, although through much tribulation, begins once more to dwell with peculiar favor upon the occupations of the farm.

The prodigals in business, care-worn and oppressed, are beginning to learn, that there is hidden wealth, solid, happiness, and enduring prosperity clustered around their paternal acres.

Let us, gentlemen, who have never wavered in our attachment to the soil, who have never deserted the business we love—and which has been so faithful to us, let us at this time indulge in mutual congratulation, that our favorite pursuit is once more eliciting songs of praise from all men. Be it our ambition to improve the occasion—while many of our fellow-citizens are returning from a career of folly, shorn of their strength, with hopes prostrated and spirits subdued, let us point them, with cheering voice, to one occupation where their feet may rest in quiet, where they may yet attain and secure for themselves and their families the greatest blessings of human life—health, peace and competency.

Be it our ambition to prove to the world by the purity of our lives, and the wisdom of our conduct, that happiness is not to be sought in the wild and visionary schemes which from time to time afflict mankind, but will readily be found in the retired and peaceful cultivation of the mind and the soil.

Gentlemen, I trust you will pardon me for reminding you, that you owe a duty to your country in another point of view, which I hope will always press with force upon your conscience.

The political duties of farmers should be discharged with great intelligence and care.

Their individual prosperity is identified with the prosperity of their country. They form the great moral balance wheel of our political machine.

The people of our cities and large towns are comparatively unsafe depositories of political power. They are too much influenced by the passing events of the day. They live and move in the midst of excitement.

But the American farmer who walks in freedom upon his own soil, acknowledging no superiority but what justice, intelligence and virtue confer, whose interest is identified with no polluting associations, whose mind contemplates in undisturbed calmness the political measures of the times—having no inducement to do otherwise, he ought to exercise his political power for his country's good.

How important is it that the public opinion which dwells in the distant hamlet, which inhabits the hills and valleys of our land, and when concentrated controls the destinies of our beloved country—how important is it, this that public opinion should be enlightened and virtuous.

The circumstances connected with our meeting together on this occasion, remind us of one whose life was devoted to the work of elevating and chastening that public opinion—whose attachment to the cause of agriculture, and whose honest and successful efforts in disseminating useful knowledge, had acquired for him a strong hold on the affections of the farmer. We have felt his absence on this occasion—for he was ever present, with zeal to encourage and wisdom to direct our proceedings.

He has gone down to his grave with a reputation which the most ambitious may well covet. Let the sons of our farmers witness in his life a full exemplification that the pursuit of agriculture may be the means of eminent usefulness and distinguished honor.

As it is said of Washington, that his virtues are embalmed in the hearts of his countrymen, it may be said of Jesse Buel, that his tomb is the memory of the cultivators of the soil.

Permit me, once more gentlemen, to thank you for the manifestations of kindness contained in the vote which you have just passed.

After the appointment of a committee to prepare the proceedings of the Convention for publication, the Convention, on motion of Judge Knickerbacker, adjourned sine die.

The Convention, in the course of its deliberations, was addressed by Messrs. Beckman of Columbia, Bergen of Kings, Nott and Duane of Schenectady, McGowan of Tompkins, Knickerbacker and Viele of Rensselaer, Morris of Westchester, and others.

Communications.

Importance of Water in Stock Yards.

Few persons are aware of the great importance of a supply of running water in yards, where cattle and sheep are confined in winter, unless they have enjoyed that privilege, and afterwards been deprived of it.

Great losses are often sustained by accidents, when cattle are compelled to go any distance from the yard for their daily supply of water, that great restorative and corrective of dry fodder; and, besides, much manure is also lost.

My experience teaches me the fact, that where dry fodder is dealt out, they drink, when water is convenient, from six to eight times a day; and I find, by an examination of the stock throughout the country, that their good or bad condition is generally, if not invariably, in proportion to the facility of obtaining water.

Their timidity in overcoming trifling obstacles in order to obtain water, is no less observable. I have known them to endure thirst and cold with apparent indifference, rather than encounter or make any attempts to pass over ice or snow drifts.

Often have I seen them stand on the brink of a small stream, the banks of which were covered with ice, and a little higher than the stream—look wishfully at the water, shake their heads in doubt, make an attempt to reach the water, slip a little, shake their heads again, then turn and look the first animal that unfortunately happens to be in their way, and go off, until thirst urged them to encounter every difficulty; when they would fill themselves nearly to bursting, and return to the yard, shaking and shivering as though attacked with an ague fit.

It was but a few days since the well in my cattle yard failed to furnish a supply of water; in consequence of which, I was obliged to drive my cattle to a small pond, where I had cut several holes through the ice for them to drink. They could not be satisfied to drink from the holes cut for them, but must, forsooth, wander about in every direction. It was but a few moments, before down went one of my oxen, up to his back in the water. Fortunately it was not very deep, and after three or four attempts he made out to extricate himself. Soon after, further up, and where the stream enters the pond, splash, splash, went one of the calves, up to his ears in water, and struggling a few moments, regained the bank. This animal had but just recovered itself, before my attention was attracted to that part of the pond, where the ox had broken in. One of the other calves had been forced into the hole, by one of the

larger animals, and came very near being drowned. Had the water been a little deeper, both the ox and calves might have been lost.

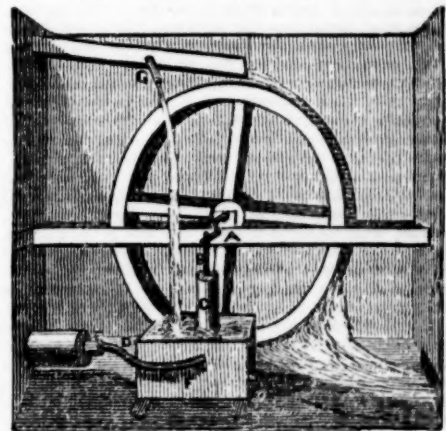
Now, a well of water, in a stock yard, is far preferable to no water, but cattle can not pump, at least mine can not, and those who have charge of them do not always know when the animals are in want, consequently they must sometimes suffer; but where a stream of water is constantly running in the yard, they can drink when and as often as they desire it.

The Shakers, at Watervliet, formerly had their cattle yards supplied with water, conducted from a spring some eighty or ninety rods distant from their yards, and, if I am not much mistaken, it was conducted in a lead tube. Some obstruction (possibly air) has caused it to stop, and they were obliged to drive their cattle to a small stream to drink. I am informed by a gentleman who lately visited them, that their cattle do not keep in as good order, as when they had a constant supply in the yard.

When I purchased my farm, I was very particular to ascertain that there was a full supply of good water on the premises, both for domestic use, as well as for stock. In addition to one well of very superior water, there are two of inferior, besides a never failing stream of pure, soft water, which passes through the centre of the farm, supplying eight lots; but the stream runs in a valley thirty-five feet below the level of the barn yard, and fifty feet below, and forty-two rods distant from my house. Now, it occurred to me that a dam might be erected, and a small apparatus applied, something on the principle of the "Fair Mount Works," at Philadelphia, by which the water could be forced up to my house; but the difficulty and trouble of procuring the necessary machinery, as different mechanics would have to be employed, prevented me from making the attempt, until chance threw in my way Messrs. Goey and Ireland, of Watervliet.

At the farm of the latter gentleman an apparatus, very simple in construction, had been erected, and had been in operation for some time, which forced the water sixty rods up a rise of fifty-eight feet.

After taking a survey of my premises, I engaged them to erect a similar apparatus, of which the following cut and description may give some idea:



[Fig. 27]

In the first place, a dam was made sufficiently high to give a head of three feet; below which, and on one side of the stream, a cistern was sunk, the top being even with the surface of the earth, five feet deep and four feet square, in which was placed an over-shot water-wheel two feet and eight inches in diameter, with buckets twelve inches long. To the crank (A) on the shaft of the water-wheel, is attached the piston rod (B) of a small cast iron forcing pump, (C) eight inches long and one and three-fourths of an inch in diameter, moving on two gudgeons near the bottom. To one of the gudgeons, which is hollow, and on which the pump works, is attached a leathern hose or tube, (F) carefully fitted and secured by winding a small cord tight around it, which being elastic, allows the lateral motion of the pump, and conducts the water to a lead tube (D) inserted in the log. The pump is set in a water-tight box, one foot square and eight inches deep, which is supplied with water from the trunk, (G) that conducts the water on to the wheel. This trunk is four by six inches diameter, and affords sufficient water on the wheel to force from twelve to fourteen hundred gallons per day to my house, which is fifty feet above the level of the creek.

From the reservoir near my house, into which the water is discharged, is conveyed in half inch lead tubes to my cattle and sheep yards, which are ten feet lower than the reservoir.

This furnished a supply of water for my house and stock, until the great frost in January, 1839, which carried off the dam, and put a stop to the works until spring. As soon as the frost was out of the ground, I repaired the dam and set it in motion again, but it had been in operation only a few days, before the water was let off by a muskrat, that tapped it by digging a hole through the dam. Nothing daunted by these misfortunes, I again repaired the breach and started the pump once more, since which it has continued to work well, and much to my satisfaction.

I have said that the water was conducted from the

reservoir to my stock yards, in lead tubes of half inch calibre, which afforded a supply until late in the fall, when it ceased running. Had logs of one and a quarter inch bore been used in the place of lead tubes, I am confident it would have continued to run freely.

Water pipes, and more particularly leaden tubes, are liable to be obstructed by the deposition of sand in the lower parts of the tube, and by the collection of air in the upper parts of the bendings. This is a serious evil, and may take place in all pipes, which have an undulating course, or more vertical curves than one. When air is thus confined in the pipes, the water will not rise to the same height at the discharging end, as at the fountain head. The air being the lighter fluid, tends to occupy the highest part of the bendings. Any pressure applied at the fountain head tends to push the air a little beyond the highest part, so as to make it occupy a portion of the descending side of the curve.

The preventive of this evil consists in avoiding vertical curves, and in laying the pipe, if possible, with an uninterrupted slope, or at least with only one slope, in each direction. When this is done, the air will escape at one or both ends of the pipe.

My object in communicating the above, is to aid those who may be situated as I was—to answer repeated inquiries by letter, and to announce that by applying to Messrs. Goe and Ireland of Watervliet, three miles north of Albany, who own the patent, that they may have an apparatus erected at a moderate expense. Mine cost me about one hundred and fifty dollars, and I consider my farm worth, at least, one thousand dollars more in consequence of it; in fact, two thousand dollars would not tempt me to abandon it.

Should any gentleman deem it of sufficient importance to call on me, I will take great pleasure in exhibiting the machinery, and giving all the information I possess in regard to the same.

CALEB N. BEMENT.

Three-Hills Farm, Jan. 7, 1840.

Sore Mouth in Sheep.

Messrs. GAYLORD AND TUCKER—Being something in the line of sheep farming, and feeling that farmers are under mutual obligations to communicate to each other whatever comes within their knowledge of the diseases, and cure of distempers, that may make their appearance in our flocks, I take the liberty of communicating what was to me a new disease among sheep. Sometime in January, 1839, a number of my sheep were attacked with a sore mouth. It generally commenced in one corner of the mouth and spread over both lips, and the lips swelled to the thickness of a man's hand. I examined all the books and periodicals that I could find, but found no description of such a disease. I found one man who told me that his father had a flock similarly attacked, but could find no relief, and lost the most of his flock. My flock, on that farm, consisted of about 300, and in the space of three weeks, about forty died with the distemper, and not one had recovered. By this time at least one half of the remainder of the flock were attacked. It occurred to me that tar would be as likely as any thing to give relief. I accordingly had my sheep all brought together; and filled their mouths, and daubed on to their lips all that could be made to stick; and to my surprise it effected an immediate cure. I lost but two or three after this, and these were nearly dead when I made the application. In a very few days, every sheep was well. The swelling went down, and after a few days the lips healed, and became perfectly clean.

JABEZ BURROWS.

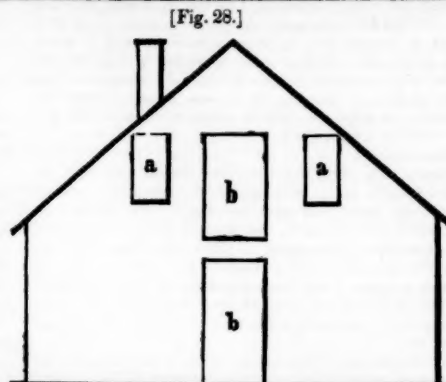
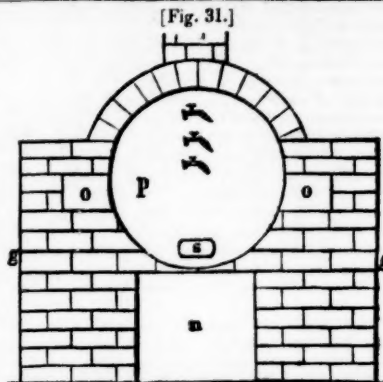
Chautauque, January 14, 1840.

Plan of Piggery.

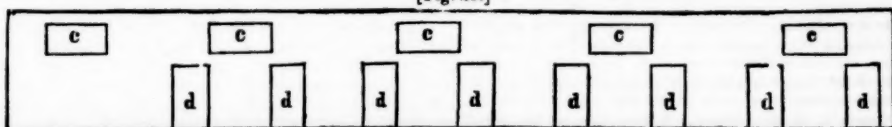
Messrs. EDITORS—Accompanying this, you have a plan and explanation of a piggery constructed last fall, which I conceive to be, so far as it goes, as perfect as it can be made. It will accommodate sixteen breeding sows with a litter of pigs each, and afford them ample room in doors and out, and have each one separate, and unmolested by any thing else; and all within a compass of less than fifty feet, and when not required for sows heavy in pig, or with pigs, it will comfortably accommodate three times this number. It can be indefinitely enlarged with entire convenience, by adding to either end in a continuous range, thus affording all the additional yard room required. A valuable addition to this would be a cellar to hold roots, which might be easily constructed under the pens adjoining the furnace and vats, taking care to have it properly guarded against leakage into it from the pens above, by tight plank or board floors sloped so as to carry off the water. The steaming arrangement is unexceptionable. Sixty bushels of roots can be steamed in three hours, and at a more moderate expense for fuel than one could hardly conceive of. Corn or any grain in the circular vat can be cooked effectually, without the trouble and expense of going to mill, at a small expenditure of time and fuel.

The expense, roughly estimated, is—frame, covering with double board, so as to be perfectly tight, shingling, partitions, cave-troughs, doors, windows, feeding troughs with swing doors, &c. &c. &c. \$250
Boiler complete, with steam pipe, 40
Setting ditto, with materials, 25
Two vats, 20
One cistern, 20
Pump for ditto, 10

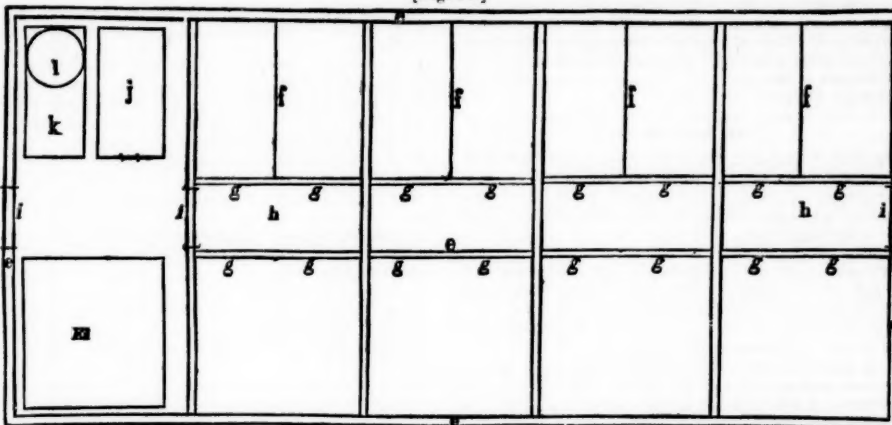
Total, \$365



[Fig. 29.]



[Fig. 30.]



[Fig. 28.]—End view of piggery, 60 feet long, 20 feet wide, and 8½ feet posts, alike at both ends.

a a, 2 twelve light windows, 7 by 9.

b b, 2 doors, 4 feet wide and 7 feet long.

[Fig. 29.]—Side view of piggery.

c c c, 5 windows, 15 light, 7 by 9, on south side; five boards ditto, to slide on north side.

d d d, 8 doors, 2 feet by 4½, on south and north side for ingress and egress of pigs to the yards.

[Fig. 30.]—Ground plan.

e e e, ground plan of frame.

f f f, plank partitions—same to be added on south side when required.

g g g, 16 troughs, with door hung to girt 2½ feet above with staple to fasten on both sides, so as to feed and clear trough free from pig interference.

h h, passage way 4 feet wide, running whole length and giving access to every trough and pen.

i i i, 3 doors 4 feet wide and 7 feet high.

j, furnace and boiler.

k, oblong box for steaming roots, 4 feet wide, 3½ feet high, and 7 feet long inside, secured by 4 joice curbs with keys, and holds about 60 bushels, and heated by steam taken through a lead pipe, from boiler j adjoining.

l, circular tub, 3½ feet diameter by 4 feet high inside, standing on top of steam vat and used for boiling corn, &c. by means of a copper pipe entering at the side near the bottom, and running to top inside, then turning and delivering the steam at the bottom. Food can be cooked in only one of these vats at a time.

m, cistern 9 feet square and 6 feet deep—holds upwards of 100 bbls. of water, and over it is stove room.

[Fig. 31.]—Furnace and boiler—end view.

n, iron door hung in east iron frame 16 by 14 inches through, which the fuel is put in, and the fire passes the length of the furnace 6 feet, and returns the whole length through the pockets o o, by the side and contiguous to the boiler, and passes by the chimney built directly over the end.

p, boiler, made of thin boiler iron 20 inches diameter, and 5½ feet long, with three small cocks r r r, to show the quantity of water. It has two large brass cocks on top to receive water and deliver steam, also a safety valve.

q q, brick work around boiler, built on stone foundation.

s, hand hob, to clean boiler whenever it becomes foul.

Respectfully your obedient servant,

P. B. ALLEN.

The Extirpation of Weeds.

It may be doubted if any branch of agriculture, is more indifferently conducted in this land, than the extirpation of weeds. In the corn field and in the potato patch, indeed, the hoe may perform its part tolerably well; and in the summer fallow, the plow turns over and smothers many of these noxious incumbrances; but traces of that vigilance which should mark their first encroachment, and of that perseverance which should return to its task till the work of destruction is completed—are too rare amongst us. How many honorable exceptions to this charge of negligence, can be found on a hundred adjoining farms? We put this question without rigidly insisting on the rule, that "good farmers suffer nothing to grow but their crops."

Let a careful observer traverse the country in summer, and he will find in many places, the *St. John's Wort* extending its yellow bloom over the fields and meadows without one effort to check its progress. Here the *wild teasel* is slowly advancing without interruption from the road side into the pastures; and there the sulphur blossoms of the *field mustard* amongst the oats and barley, show it already in possession, far and wide. The *quitch grass*, the *dock*, the *ox-eye daisy*, the *horse-thistle*, the *mullein*, the *milk weed*, the *yarrow*, and others of less importance,—if they do not, like a neighbor's pigs and geese, devour the pasture, at least they occupy the space where grass ought to grow, and rob it of the nutriment which ought to increase its growth. We are mistaken, if more

loss is not sustained from vegetable, than from animal, in truders.

The above list is long, but we have not yet done. The *burdock*, the *tory weed*, and the *cockle bur*, are most injurious to wool; and the *stein kraut*, (red root, or pigeon weed,) and *biennial chamomile* seem to poison the growing wheat. The two last of these weeds come in so slyly, or rather without observation, that the farmer is sometimes taken by surprise when he beholds the ruin of his crop.

There is one weed, however, so formidable, that all others, bad as they are, seem to shrink into insignificance before it. This is the Canada thistle—"the cursed thistle" of England, and if any plant can deserve such a name, this is the one. It is in a fair way to cost us more than the Florida war—but description would be useless to those who have marked its progress in spreading over the fields, or whose fingers have been pricked by it when securing their crops.

The Canada thistle effected a lodgment in this town, more than 35 years ago; but its progress within the last five years has been more rapid than at any former period. Fields that had not been previously encumbered with it, have had of late so many new seedlings, that the land is rendered almost unfit to be sown with wheat; and without much perseverance it will be entirely so in a few years.

In pastures and meadows, indeed, the progress of this thistle is comparatively slow, being checked by the

grass and the compactness of the soil; but when the ground has been plowed for oats, spring wheat, and barley, or even for a summer fallow, if not more than three times, it spreads out in every direction; and a patch, that might be covered with a sieve, in one or two years, will increase to several rods in diameter. Into these circles, if the growth is rank, many farmers are unwilling to enter, leaving the crop as well as the thistles, to stand undisturbed.

Now, what are we to do? becomes a very important question. In answering it, we should say that the farmer ought to be very watchful in passing over his fields, both before and after plowing, so as to mark every new patch that appears; and then, without the delay of a single week, he ought to *dose* the root of every separate stem with strong brine. A dry day is the best for this purpose. We have generally made a hole large enough to hold a gill or more, with the corner of a hoe, cutting the stem as far down as that instrument reaches. When we have used old brine, one application has always been enough to destroy them; and in this way, *taking them in time*, a little attention, and a little labor, would prevent great damage.

If the patch, however, has become too large to be treated in this way, its further progress may be checked by applying brine in the manner proposed, to all such as stand near the circumference.

It should be remembered, however, that most of these patches consist of a single plant with many stems, unless broken by the plow; and that we cannot destroy them unless we attack the whole. If, therefore, they are protected by fences or other obstructions, these ought to be removed; and then by perseverance and frequency in either plowing or hoeing, their destruction may always be accomplished,—sometimes in one, but in two without failure.

D. T.

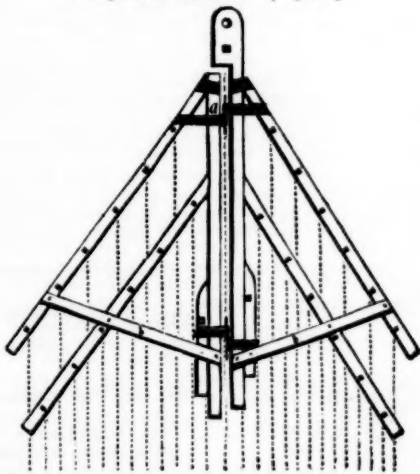
Cayuga Co. 1 mo. 30, 1840.

The Sugar Beet.

MESSES. EDITORS—I have raised the sugar beet three years, and believe them to be the best root raised to winter farm stock of every description—hogs in particular are exceedingly fond of them. They are of great use in fattening pork. My best crop was raised in the following manner:—

To make sure of a good crop, a rich, clean, well pulverized soil is absolutely necessary. I plow my land deep in the fall; cross plow and pulverize with a fine drag in the spring; throw it into one bout ridges two and a half feet apart; rake the ridge lengthwise; plant ten or twelve inches apart; keep the ridge as large and broad as possible; destroy all weeds; three hoeings are sufficient. I believe these directions will answer for the northern and eastern States at least. I soak my seed in strong nitre water, and roll in plaster. They are superior for milch cows. They increase the milk and give a pleasant flavor, and are excellent for ewes that have early lambs.

Improved Harrow.—[Fig. 32.]



I send you a rough draft of a drag. I have one in use. It clogs less and works the land better than any drag I ever used. The placing of the teeth is certainly necessary to prevent the drag from clogging, and to make it work the land equally. Oak timber, three inches square, for the sides and centre pieces; one and a half inch plank, five inches wide, locked half an inch deep, and bolted through with half inch bolts, make a firm drag. Fig. 32, a, represents the hinges—a hook and eye made of stout bars of iron, bolted with half inch bolts—b, the cross pieces bolted as above. It may be made from five to six feet wide, and any number of teeth wanted, used.

Yours, with respect,

EDMUND WELLS.

Harmony, Dec. 10, 1839.

Farm Buildings.

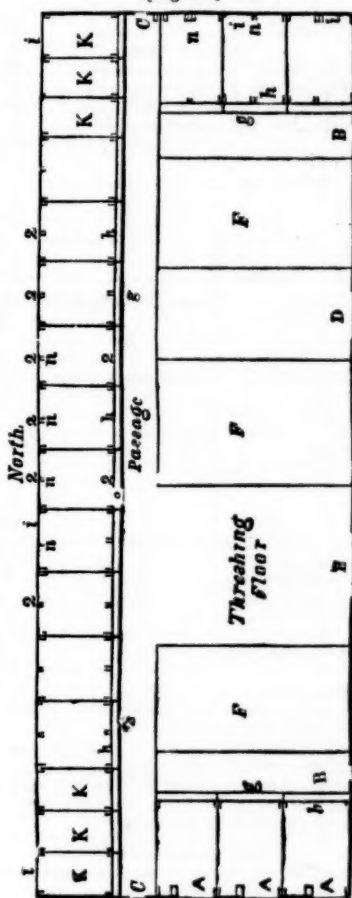
J. BUEL, Esq.—Sir—I have been reading the fifth volumes of the Cultivator that you sent to me. I find therein much useful information; but my corn grounds are yet too rich to profit by your mode of culture. I tried the experiment this year on two acres; I hauled, in the spring, from my barn yard, forty good ox cart loads

of manure; spread it well on two acres; then took two acres by the side of it; plowed the four acres well; planted in one day; tended well, all alike, with hoe and cultivator; cut it to the ground the 1st of this month. I cannot perceive any difference in the crop at present, but may when I come to husking. The ground is a sandy loam, with gravel two or three feet from the surface; six feet to permanent water; very limy; was thirteen years in corn, with one or two changes in wheat; then three years a meadow, and three years in pasture. I broke it up in April, 1837, and planted it in corn; eighty-one bushels of shelled corn per acre, which was measured in 1838; about sixty bushels were not measured, but judged to be that quantity. This year I planted about the same, may be a little more. The two last seasons have been bad years for corn.

I will try your Dutton next year; as it can be planted so much closer than our large corn, perhaps it will produce more; but to plant our corn three feet apart, we should get nothing but fodder and nubbins.

I send you the ground plan of my barn; I think my stables an improvement; if you think so you can tell others of it; if not, say nothing about it.

[Fig. 33.]



A A A. Broad doors to feed working oxen with the yoke on.

B B. Doors into the passage.

C C. Windows for light and air, hung at the top; and when open, to form a roof over the opening.

D. Broad door to drive in, to unload hay or grain; also used for horse stable.

E. Door to threshing floor.

F F F. Places for hay and grain.

g. Breastwork three feet nine inches high, forming one side of the feed trough.

h. Inside of feed trough, 23 inches high.

i i i. Doors to the stalls, every animal having a door to his own stall.

K K. Single stalls for large or troublesome stock; all the rest are double; to be used for one or two, as may be wanted. A temporary partition to be slipped in between the studs 2 2 2, when two are put in; the double stalls are very useful for milch cows, and for cows to calve in; when the weather is bad, I put in the partition and house all; the studs are framed in pairs, n n, which space between is to receive the plank, forming the permanent and temporary partition.

o. Is a door through the breastwork to go through the stall out doors, and to go in to milk.

Nine feet over the threshing floor is another threshing floor which I use for flail threshing, and various other purposes. You will observe that as my barn will hardly hold feed for my stock, I have grain and hay houses built in the field convenient to the crop; the benefit of which I have lately experienced by having one of 24 by 36 feet full of wheat burnt. I don't like to have my whole crop in one place; besides, I prefer short hauling in harvest, and rehailing at a more leisure time. I send you a plan of my barn and stables, not because I think it is the best, except the stalls, which I

think are a great improvement. The extra expense of doors is mostly saved by the gain of room, as the passage for the cattle is saved; and the convenience of housing is great, as every animal soon knows his own door, and no running and pushing each other, and can lie down without being confined with halter or bows.

My barn stands in the central part of the yard; I prefer the north for entrance to stalls in this climate, when the winters are open; and the north is the hardest side of the barn it keeps the sun off, which makes the north dry and hard when the mud is six inches deep on the south. I have no open sheds because I find them more expensive than shut ones. The strong cattle drive the weak ones out, and the open shed that would serve ten head, would make abundance of room for 25 or 30 put up in the way that I do.

Seven years ago I built considerable board fence, 13 rods of which I made with posts not set in the ground but gave it a worm, thus;



which has stood all storms unharmed, and without repairs; whereas the straight fence posts have many of them rotted off this year, and will need much repairing soon, while the worm fence is as good as new.

Respectfully yours,

HORACE WELLS.

Oxford, O. Sept. 10th, 1839.

Curing and Smoking Hams.

MESSES. GAYLORD & TUCKER—Permit me to offer a few observations on the subject of curing and smoking hams. Whatever abridges labor and expense, is useful to the agriculturist. I have tried several methods of preserving hams, and among others, the celebrated Knickerbocker pickle—but for a number of years past, I have employed the method stated below—and I must say, I have never tasted as good hams, cured in any other manner. Besides being the best method, it requires the least labor, and is the cheapest.

I take a clean oak cask—cover the bottom with a thin coat of fine salt, then pack in as many hams as will lay singly on the bottom; I then put about half a table spoonful of pulverized salt petre to each ham, then cover them slightly with salt; I then put to each ham about a gill of molasses, and proceed in this manner till the cask is filled. I let them lie for 8 or 10 days, until the salt petre is dissolved, and has penetrated the meat; I then cover the whole with a strong pickle of salt and water; in 15 or 20 days they are fit to smoke.

In smoking, I am very particular as to the material employed in making a smoke.

I prefer green hickory, or sugar maple chips, when these cannot be had, white ash or cobs answer an excellent purpose. Any kind of hard wood, provided it is sound, will answer; but soft wood, such as pine or hemlock, should never be used, as they impart a bad taste to the ham. After the hams are well smoked, they can be preserved for summer use, in the most approved manner.

A very tight, or close smoke house, which excludes atmospheric air, is apt to cause the hams to sweat, and has a tendency to injure them near the bone.

The above method I have never seen published; if you think it worth a trial, it is at your disposal.

Respectfully, &c.

T. ROBINSON.

Binghamton, January 21, 1840.

Gypsum—Phosphate of Lime.

MESSES. EDITORS—I have been engaged in farming for about a year past, and being nearly destitute of experience, have read much, and reflected some, in order to qualify myself for my new pursuit. I have had, thus far, no great success. Nevertheless, I feel persuaded that I have discovered some facts, that may be made useful in the hands of those possessing more science and more leisure than fall to my share. I regret, however, that I cannot explain my subject without using chemical terms, that may not be understood by a portion of your readers.

Agricultural Chemistry seems to be imperfectly understood, even by the most scientific. What we most require to know, for practical purposes, is, the constituent elements of the useful plants, and how and whence they are or may be obtained for their nourishment. The publications to which I have had access, do not appear to me to furnish accurate information. The reason probably is, that chemists of the highest attainments, have made agriculture a secondary object of research.

Gypsum being extensively used in agriculture, the laws by which it operates ought to be well ascertained. None of the publications that I am acquainted with, satisfactorily explain its principal phenomena. The truth might have been discovered by attending to facts already known, but which appear never to have been applied to this subject. Gypsum is decomposed in the soil by carbonate of potash. The two substances are changed by double electric affinity, forming carbonate of lime and sulphate of potash. Now, as the soil (with some exceptions, noticed hereafter) contains carbonate of potash, and as decaying vegetables contain it, the gypsum, as it slowly dissolves and reaches the alkali, must be decomposed. Such is the law of chemical affinity. I consider the fact as demonstrated.

Chaptal says, page 175, that "the most abundant salts in plants, are sulphate of potash common salts, the phosphate of lime, and the nitrate of potash." Now, if the sulphate of potash is "an abundant salt in plants," it may be highly useful to furnish it for their nourish-

ment, in suitable quantities. Gypsum effects this object in any soil containing carbonate of potash. But in wet, sour soils the carbonic acid is expelled by the acetic and other acids, the gypsum remains without change, and therefore produces no beneficial results. So, also, near the sea coast, the alkalis have become muriates, and the gypsum has no effect. Probably the application of potash with the gypsum, might render it efficient in both cases.

Gypsum is found to have the greatest effect on sandy, or silicious soil. The reason is obvious. Silica is generally combined with potash, which is freed by attracting carbonic acid from the atmosphere. It exchanges acids with the gypsum, and becomes sulphate of potash.

If my reasoning be correct, it follows that the constant use of gypsum may impoverish soils by abstracting the potash they contain, unless it be in excess, or be restored by the application of other manures. I mean to say, that it will use up the fertilizing ingredients of the soil, if the vegetation be removed without any thing being returned.

Gypsum is understood to mitigate the effects of drought. Yet we know that it solidifies water, and does not attract it more rapidly than common salts. But the sulphate of potash, the indirect product of gypsum, is deliquescent, and powerfully attracts moisture. The effect is not accounted for by former theories.

Although phosphate of lime is a salt which enters into the composition of most of the useful plants, the fact appears to have received very little attention. The kernels of wheat contain, according to the tables of M. The de Saussure, over 5 per cent of it. Every twenty bushels of wheat require over one bushel of the phosphate; yet our chemists have not inquired how it is to be supplied to the plant or to the soil. Chapin recommends the use of bones as a manure, on account of the gelatin and other animal matters they contain; but seems to consider the phosphate of lime, which they contain in great abundance, as insoluble, and therefore useless. But the substance is soluble in excess of phosphoric acid, and in most of the acids. No doubt nature finds means of dissolving it for the use of those plants that require it. The ashes of wood contain phosphate of lime in considerable quantity. They also contain much finely divided silica. Whether the latter substance would be useful or injurious to wheat, I am unable to say.

I will remark, in conclusion, that barn yard manure contains phosphate and carbonate of lime, sulphate of potash, and indeed all the salts required for vegetables. It will answer our purpose very well, if we can get enough of it. If not, it is an object to increase its effects by other manures—the means and manner of applying which, ought to be discovered by chemical analysis, and well conducted agricultural experiments.

Very respectfully,

U. F. DOUBLEDAY.

Scipioville, Feb. 1840.

Expense and Profit of different Crops.

MESSES. GAYLORD & TUCKER—As I have leisure at present, I will give you a statement of some of my crops the past year. I expected to raise the heaviest crop of corn that was in the state, by the acre. But I find by Mr. Ingles' statement, I am far short of it. I planted adjoining my premium piece last year, an excellent clover lay of four years' standing, soil sandy loam with a little gravel. I drew on twenty-five loads of barn-yard manure to the acre, (six in number,) plowed once, rolled and dragged, planted 10th and 11th of May, with a hill, three feet by one and a half to two feet apart; hoed three times, used a cultivator each time twice in a row; took care to leave but three and four stalks in a hill; cut it at the ground about the middle of September; set it up in small stooks, measured one acre accurately, in one corner of the lot, supposing it to be the best; but on husking found that we might have chosen a better acre. We measured and weighed accurately; had 87 bushels 33 lbs.; we were quite certain that the six acres would yield at that rate. My land was equally good as last year, but only half as much manure was applied, and the season has not been near as good as 1838 in this region. My corn is quite sound, and I could have contracted it at five shillings per bushel; it is the 12 rowed variety, yellow. I have been quite successful with my sugar beets and ruta baga. I chose a piece for beets near my house, that was formerly a very springy spot; no less than eight springs on less than three-fourths of an acre. I have had about 30 rods of blind ditches made on it, with two open ditches through it; planted with potatoes, in 1838 had a very good crop; the soil is very changeable, muck, sandy loam, gravel, clay, &c. Stiff clay gravel proves the poorest of any for beets, stiff clay next; very little difference between the other soils; I put no manure on any except the sandy loam. I carted a little sand on a part of the stiff clay, spread three inches thick; the effect was great; it produced three times as much as where there was no sand. The ground was plowed twice, dragged and rolled, then ridged with a small corn plow, about 22 inches from the centre of each ridge; planted by hand, 6th and 8th of June, eight inches apart, with seed that had been soaked several days previous; sprouted some roots more than an inch long; came up well, except a few papers from a box of garden seeds, (yellow sugar beets,) but we were careful to transplant all that failed. I think the white beet the best; some weighed 9 or 10 pounds, most of them large; there is in the

patch 117 rods and 63 feet of land: the two open ditches deducted, 112 rods remain; gathered 774½ bushels; I find them excellent food for cattle, hogs, &c. I have raised 1264½ bushels of ruta bagas on one acre; the soil sandy loam; had spring wheat on the year before; put 20 loads of sheep manure on; plowed twice, dragged and sowed on the level surface, 18th of June, with a drill 2 feet 2 inches apart; the ground was very mellow and all vegetation completely dead; we hoed as soon as we could see the rows after they came up, without using the cultivator; the second time in the same way, taking care to leave but one plant in a hill, from 8 to 14 inches apart, generally 12 inches. Gathered in November.

EXPENSE OF AN ACRE OF CORN.

25 loads of manure, at 4s.....	\$12 50
1 day plowing.....	2 00
1 " rolling and harrowing.....	1 00
1 " planting, with boy to drop pumpkin seed, &c. at 6s.....	3 38
8 " hoeing, thinning, &c. at 6s.....	6 00
2 " with horse and cultivator.....	2 00
4 " cutting and shocking, at 6s.....	3 00
8 " husking, housing, &c. at 6s.....	6 00
1 bushel plaster, sowed broad cast.....	3 38
3 bushel seed corn at 8s.....	7 50

Board included.....\$34 01

VALUE OF CROP.

87½ bushels at 5s.....	\$58 38
8 loads of stalks, at 6s.....	6 00
6 loads of pumpkins, at 8s.....	6 00

Turneps enough to pay interest on land.

Manure for after crop.....	\$70 38
	8 00

Expense.....\$78 38

Nett profit.....\$46 37

EXPENSE OF ONE ACRE OF RUTA BAGAS.

2 days' plowing, at 16s.....	\$4 00
1 " dragging.....	7 50
20 loads of manure, at 4s.....	10 00
1 pound of seed.....	1 00
Planting with drill.....	50
8 days hoeing first time.....	6 00
10 " second time, at 6s.....	7 50
Transplanting.....	1 00
7 days' harvesting and housing.....	5 25
Interest on land.....	3 50

VALUE OF CROP.

1264½ bushels, at 1s.....	\$150 06
Tops for cattle and sheep.....	4 00
Manure for after crops.....	6 00

Expense deducted.....\$168 06

Nett profit.....\$128 56

I will mention that the transplanting was done in showers, or wet weather.

I have just measured my crop of oats that grew on a little less than one and three-fourths of an acre of my corn stubble of 1838; we had 230½ bushels that is over 130 bushels to the acre, of first rate black oats. Thus we see what manure is for after crops.

EXPENSE OF 112 RODS BEETS.

5 loads of manure, at 4s.....	\$2 50
1 " sand.....	50
3½ days' plowing and rolling.....	3 00
1 " ridging, &c.....	1 00
4 " planting with boys.....	2 00
2 pounds seed, at 8s.....	2 00
4 papers, at 6p.....	0 25
10 days' hoeing, thinning, &c. at 6s.....	7 50
6 " with boys, at 4s.....	3 00
Transplanting, odd spells.....	1 00
6 days gathering, at 6s.....	4 50
Interest on land.....	2 00

Board included.....\$29 25

VALUE OF CROP.

774½ bushels, at 1s.....	\$96 59
Expense deducted.....	29 25

Nett profit.....\$67 37

I could sell many of them at two shillings per bushel, and the tops were eat greedily by the cows.

I am able to prove, by substantial witnesses, the correctness of the above statements, if it is called for.

J. F. OSBORN.

Port-Byron, January 22, 1830.

Roads.

Doctor Humphrey, in his admirable letters from Europe, remarked that America has not yet learnt, in laying out her roads, that it was as long over a hill as round it; and this just observation I generally found true to the sore trial of my patience, and the weariness of my horse, in a journey through the southern tiers of counties last summer. The pioneers of these settlements seemed determined to make the highways as straight as possible, and had they calculated on balloon traveling, no doubt their engineering was eminently just; but to crawl up to the peak of one great long hill,

from one side, just to be able to descend to the bottom of it, on the other; and be obliged to cross over fifty pitches, more or less, to accomplish this in addition, I opine, reasoning mathematically, is somewhat crooked, and that going round the base of the hill is but little or no further, than going over it. The pace of my horse on a level road, I found, was about seven miles an hour. And he would easily accomplish fifty to sixty a day, but up hill, it was hard work at three miles an hour, and descending at four, making only about thirty a day.

In laying out the new roads, in this section of the country, I find this great mistake by the first settlers, is fast being rectified; and the slopes and curves of the hills, and the windings of the valleys, are skillfully seized upon by the surveyors, to obtain levels, and, at most, to have the ascents and descents as gradual as possible. I would particularly point out, as an admirable example of skill in turning hills, the new turnpike, leading from New-Berlin, Otsego county, on to Catskill; and I rely upon the improving genius of my countrymen, to see many more such to add to the comfort and convenience of the weary traveler.

Milking.

Massachusetts' shrewd, observing agricultural surveyor, Mr. Coleman, says that milking is no longer in fashion, by the fair fingers of America. I only wish he had passed through the beautiful village of Hamilton with me last summer. He would have found at least one exception to this remark. After seeing my steed well cared for, and laying in pretty bountifully with provender on my own behalf, I sallied out, as is my usual mode, for a view of the town, and whatever curious might be contained therein. Taking the southern side of the nice Park, that the good taste of the inhabitants has reserved for an agreeable airing, gazing now on the romantic grouping of the distant hills beyond, and then on the pretty architecture of the houses fronting the open space, with their charming door yards; all at once I was brought up by the sight of a noble cow showing at least three parts of the Durham breed in her fine muzzle short horns, thick loins, and large distended udder, the milk oozing out in great fresh globules from the almost bursting teats. This was attraction enough to make a person of my taste in kine flesh, halt for a profound view. But I had hardly given a second look, when out trips from the next white cottage in front to the grass enclosure, a charming, rosy checked girl, with a garland of flowers round her head, and a pail painted green without, and as white within as the plump, alabaster arm, bared nearly to the elbow, from which it was suspended. Gracefully seating herself on a three-legged stool, and uttering in a sweet, subdued accent, "So, my gentle mully, so," she commenced stripping away. I declare, the sight made my bachelor heart almost leap from within me, and I thought to myself, as did Cobbett, when he fell in love with his future wife, wringing clothes at a wash tub, "that's the girl for me."

Straw.

I am paying at the rate of three dollars per ton, for straw delivered at my stock yard, solely to keep my stock clean, dry and warm in their stables. I think, indeed I know, it is worth the money for this purpose alone, to say nothing of its value as manure, and assistance, when plowed into a heavy soil, to lighten and pulverize it; and yet on hundreds of farms that I passed during my journey, I saw heaps upon heaps of valuable straw transported from the barn to the field, not for the purpose of being plowed into the ground, to decompose and again make more straw, but to be burned, and its ashes scattered to the four winds of heaven. Oh, wasteful extravagance, that will be mourned over and regretted by future generations! that can only get ten and fifteen bushels of wheat from the acre, that now produces its thirty and forty. Yours,

THOMAS TRAVELER.

Disease of Sheep.

EDITORS OF CULTIVATOR—Please have the goodness to publish, in your paper, the following letter addressed to H. D. Grove, Esq. of Rensselaer county, and oblige your ob't serv't,

J. V. H. CLARK.

Manlius, Feb. 3, 1840.

To H. D. GROVE, Esq.—Knowing your willingness at all times to subserve the cause and best interests of agriculture, and most especially that branch of it connected with sheep husbandry, and knowing, also, your great personal experience in the business of rearing and managing sheep, and in the treatment of the various diseases to which they are subject, I take the liberty of setting "a case" before you, through the columns of the Cultivator—presuming you will have the goodness to respond to it through the same channel, that our neighbors may also reap some fruits from your observations.

Last September, I purchased about forty lambs apparently in perfect health: soon after, I observed one lamb occasionally nibbling at different parts of his body—at each nibble he would draw out a small lock of wool. I then supposed he was biting off some burrs, of which there were a few scattered over the body. I thought little or nothing more of it, though I occasionally saw others in the like condition, till after they were brought to the barn for winter, when I found, by more particular observation, that something unusual must be the matter. I now took exact note of their motions.

It seems that, in most individuals, the attack commences on the shoulders, and in some just above the

roots of the tail; though it seems there is no part of the body exempt. On opening the wool there appears nothing in the shape of a sore, or a scab, but a sort of sweating or greasiness of the skin, which in many instances extends to the outside of the wool. The skin appears somewhat inflamed or irritated from the disorder, or it may be caused by the continual application of "tooth and nail" to the affected part—the virulent character of the disease is evidently increasing. The sheep eat well—their feed has been good fine hay—there is little appearance of ill health other than that mentioned. The flock from which these lambs were taken, are in the same condition, and one other in the neighborhood.

In your answer, please give us your opinion as to the name of the disease, which appears evidently to be strictly cutaneous, its probable origin, and its treatment to effect a cure; and whether it may have been of long standing in the flock from whence they were purchased.

Yours &c. most respectfully,
J. V. H. CLARK.

Rohan Potatoes.

It is conceded, I believe, by every one who has cultivated the Rohan potato, that they are all "that they have been cracked up to be," and no "humbug." From every section of the country we have very flattering accounts of their great and extraordinary yield; more particularly the large quantity obtained from the small quantity of seed planted. Some have measured the ground where a small patch has been harvested, weighed and measured the produce, and then made a calculation of what an acre would produce at the same rate, which exceeded 1400 bushels! Now, allowing them to yield only one-half that amount, they would then exceed any other variety that has ever fallen under my observation. It is true, they require good soil, good treatment, and a liberal allowance of manures; and let me ask what variety does not require the same treatment to ensure a good crop?

Some contend that they are nothing more nor less than the "Merino," under a new name. An examination of the tubers, would, I think, convince the greatest sceptic, that they are quite a different variety. The color, I readily admit, is very similar to the "Merino," as they are called, but the form of the tubers are quite different; being generally something in the shape of the pine apple; besides, there are many more eyes, and more deeply indented, in which respect they more closely resemble the "Lady's Fingers," than any other variety I have seen.

The advantages this potato possesses over other varieties, are economy of seed, and the great facility with which they can be harvested. From four to five bushels per acre are deemed sufficient, when it takes about twenty bushels of the Pinkeyes to plant the same amount of land. Here is a saving at once of seventy-five per cent. The difference in gathering the crop is still greater. I have had 120 bushels dug and picked up, in the same time, by the same number of hands it took them to dig and pick up fifteen bushels of the Pinkeyes. This may appear strange to some, but it is no less strange than true.

From my experience for the last two years, I am convinced that three feet and six inches each way, from hill to hill, and two sets with at least two good eyes, is the proper distance, and the requisite quantity of seed to be used. This will admit air, heat, and give room to work with the cultivator, and earth up with the plow, without making the furrows or trenches too deep.

For manure I have used that taken immediately from my cattle yard, spread broad cast, about twenty loads to the acre, and immediately plowed under.

My crop, the past season, amounted to more than four hundred bushels, some of which are now for sale, at five dollars per barrel, delivered at Albany.

For the table, they have been rated as second and third qualities. I consider them equal to the Mercers.

Judge Buel recommended them as a valuable acquisition to our husbandry:

"First, Because their quality for the table, will justify it. If not superior, they are good. The flesh is yellow, solid, and of good flavor.

"Secondly, Because they admit of a great saving in seed—two eyes sufficing (and many of the tubers have thirty to forty eyes,) to plant a hill, and three or four bushels to plant an acre of ground.

"Thirdly, Because they require comparatively little labor in harvesting—a man being able to dig thrice as many of them in a day, as of ordinary kinds. The tubers are very large, one hundred and ten of the largest of our crop, completely filling a flour barrel. Twenty-seven bushels were dug in our presence in one hour, the tops being pulled by one man at moderate labor.

"Fourthly, Because they yield an abundant crop. From eighty-five rods of ground, we gathered one hundred and seventy-five bushels, while our common cultivated kinds did not give us a half a crop. One case has been stated to us, of a single potato producing a bushel, and another, of its having produced a barrel at harvest.

"This potato sends out laterals from the main stem, which grow to great length; and the roots which feed it, strike deep, are numerous and strong. Hence, the ground in which they are to be planted, should be plowed deep, and the hills should be placed wide apart, that the soil may acquire solar heat. We ought further to remark, that they should be planted early, in our climate, as early as the ground is sufficiently warmed for

their reception, as they seem to require the whole season to grow their large tubers, and mature the crops."

CALEB N. BEMENT.

Three-Hills Farm, Feb. 1840.

Advantages and Pleasures derived from a Study of Natural History.

In a country where nature has been so liberal in her productions, and so prolific in internal resources, few objects can be of greater importance than natural history. Yet unhappily, there is no branch of useful knowledge so little studied. The cultivation of this department of science will open to our view the immense treasury we possess unenjoyed, and which must, as they develop themselves, eventually tend to the security and welfare of our citizens; the extension of their commerce, advancement in mechanics and manufactures; improvement in agriculture, and a general expansion of all those arts which adorn and embellish life. The little progress we as a community of farmers, have made in exploring the vegetable kingdom, ought of itself to convince us that our country is well stored with plants, which are capable of being greatly improved, not only for the benefit of individuals, but as national advantages. The almost total neglect of botanical inquiry in this part of the country, may be imputed in part to the fact, that until lately it has not been a subject of instruction in our high schools, and to the insuperable difficulties that are supposed to attend it, but principally to the mistaken opinion of its utility in common life. This opinion being so generally prevalent, it may be necessary to observe that though all the medical properties and economical uses of plants are not discoverable by those characters by which they are systematically arranged; yet the celebrated Linnaeus has found that the characters of plants may be, in a considerable degree, and most safely determined by their natural organization. Plants of the same natural class, are in some measure similar; those of the same natural order bear a still nearer affinity, and those of the same genus are seldom found to differ in their medical properties. Thus, according to the natural system, plants of the second order in the third class are all esculent, affording food for man and beast, or birds; and no one sprig of all these numerous genera, have been found to be poisonous. Plants in the thirteenth class are chiefly poisonous. Those of the first order in the fourteenth are odoriferous and not poisonous. There are no poisonous plants belonging to the fifteenth class; but those of the twenty-fourth class of Linnaeus, are mostly suspected or dangerous plants, and so of others. By a knowledge of the classification of plants, in meeting with a strange one, we are enabled with very accurate certainty to determine its properties, by comparing it with those of the same class and order to which it belongs; a great advantage in having a knowledge of botany, is the certainty of knowing the right name, for then every plant tells its own name; for instance, in meeting a lily, a botanist, or one acquainted with the first principles, observes it has six stamens; it therefore belongs to the sixth class called *Hexandria*. It has one pistil, first order, called *Monoginia*, genus *Libinum*; and the species may be found by comparison. Now these names are the same in all countries and languages for the same plant, where botany is attended to as a science. From a want of botanical knowledge, the grossest mistakes have been made by applying the names of plants belonging in Europe to those growing in America. Botanical inquiries will enable us to correct those mistakes and to distinguish exotics from indigenous plants. Was the theory of this science united with its practical uses and employed in procuring the nurseries and adding to the conveniences and ornaments of life, the vulgar opinion of its being merely speculation would be removed, and could not fail of engaging a more general attention. It is well known that the economical uses of the vegetable kingdom are exceedingly numerous, not only furnishing food and medicine for man and beast, materials for agriculture, arts and manufactures, but we are to look to it for many of the delights and ornaments of life. It supplies important articles of commerce, and in some countries is the greatest source of inter-national wealth. We are no doubt ignorant of many productions, well adapted to those purposes; and to what class of men does it belong to inquire into these things, and bring them to their proper light. Is it not to those who would be called upon to produce them, should their usefulness be ascertained? Certainly it is. Then why should not that class of men be prepared to make discoveries in a science, when their interests might be so much advanced. Who has more leisure, or greater opportunity than the cultivator of the soil, to promote inquiries. Think not that every thing valuable is yet discovered in all the varieties of plants growing in our wide spread country; our progress may be slow, but to the young men of the country, let them say it must be certain.

The other branches of natural history are equally important in elevating the character of the good farmer. He who rears all the animals for domestic uses, should he know nothing of zoology? In the pursuit of this branch of the science, our motives should extend beyond the "auri famae" [love of good.] It should be cultivated for the sources of pleasure it opens to the mind, for the benefit it extends to agriculture, and it should act as an assistant in bringing systematic, scientific agriculture to perfection; a little reflection will arouse the most fastidious, and convince every intelligent mind that a knowledge of the first principles of zoology may

be pursued, without interfering with those avocations employing the bodily powers. The body, after some exercise requires rest; at such times, and in the long winter evenings the mind may be profitably employed treasuring up knowledge, and unquestionably it could not be better engaged than in pursuing the study of natural history. Taking this view of the subject, the argument of "time lost" falls to the ground. The study of natural history tends most powerfully to strengthen the memory, exercise the judgment, discipline the mind, and bring every intellectual faculty into a state of the greatest activity and subjection. The great variety of facts learned from this study, and the necessity of classing them in the mind begets a habit of mental activity and order, that is of incalculable benefit to the possessor in the common business of life, enabling him to arrange, distinguish and disentangle the most confused and chaotic matters with readiness, certainty and despatch. The man whose business it is to cultivate the earth, it ought also to be expected should know something of mineralogy. That branch of the science which treats of the earth's stones and other unorganized masses of the globe. Perhaps there is nothing which will serve so much to assist us in the progress of natural history and its various branches, as a cultivation of a correct taste. Taste may with propriety be imparted to knowledge, and diffused through the practical sciences, and connected with objects of improvement. Many a patriot bosom has burned to raise the fabric of his country's prosperity on the firmest foundation—rural thrift. But even patriotism, supported by talents, and sustained by money, is better calculated to exert her influence in storms and commotions, than in the still scenes of retirement, and calm quietness of rural pursuits. It must be left to pure unadulterated taste to exert her potent influence necessary to the permanent advancement of science connected with the rural arts. By this a permanent foundation will be secured; such is the true basis upon which to rear this superstructure; without it our exertions proceed from mere excitement, and consequently can not be lasting. FARMER C.

Manlius, Jan. 28, 1840.

Experiment in Planting Potatoes.

Messrs. GAYLORD and TUCKER—I noticed an article in the Poughkeepsie Journal, of Oct. 30, credited to the Yankee Farmer, on the cultivation of the Rohan potato; as I am in possession of the information called for in that paper, I give my experiments and the result. If you think they will benefit your patrons, you will give them a place in your paper. The Farmer says,— "The extraordinary prolific nature of the Rohans, as stated in many papers, is likely to deceive those farmers who are unacquainted with them, and know not that this potato needs much more ground than our common kinds; and it would be more satisfactory and useful too, as it would lead to a correct view of the subject, if those who publish accounts of their great yield, would have the goodness to state the quantity of ground or the number of hills planted, as well as the quantity of seed, for this is surely of superior importance." I planted six rows of Rohans, of thirty hills each, with the following quantity of seed:

No. 1, one eye in a hill,	produced	120 pounds,
No. 2, two eyes in a hill,	do.	130 do.
No. 3, three eyes in a hill,	do.	151 do.
No. 4, four eyes in a hill,	do.	130 do.
No. 5, five eyes in a hill,	do.	155 do.
No. 6, six eyes in a hill,	do.	155 do.

The soil a dry gravel, well manured, planted the first of May, and precisely five rows to a rod, equal to 4,000 hills to the acre; the greatest yield being equal to 344 bushel (of 60 lbs. to the bushel) to the acre. The common varieties do not yield, this year, on dry soils, but little more than half the usual quantity to the acre. It is reasonable, therefore, to suppose that the Rohans do not yield a full average crop—my largest potato weighed three pounds five ounces. To judge from the size of the potatoes and the size of the tops, I am inclined to believe that it is unnecessary to plant them more than three feet three inches asunder, or five rows to the rod, the same distance that I plant my common varieties. I regret that I did not weigh my common potatoes, planted by the side of the Rohans, and cultivated the same in every respect—but should judge they did not yield more than half the quantity to the acre.

I also tried an experiment with the common potato, planting two rows of thirty-three hills each, with one middling sized potato in a hill; and two rows of thirty-three hills each, with two middling sized potatoes in a hill, and placed from four to six inches apart, the potatoes of a size as near as we could judge, planted precisely five rows to the rod. The two rows, with one in a hill, yielded 251 lbs. or 253 bushels of 60 lbs. to the bushel, to the acre: the two rows with two in a hill, yielded 300 lbs. or 303 bushels to the acre, making a difference of fifty bushels, in round numbers, to the acre, in favor of two potatoes in a hill. The hill a moist loam, and in an extra state of cultivation.

Perhaps I ought to say a few words about Grant Thorburn's "Charity Corn," as I was one of the many who purchased this highly recommended variety of early corn. In the 5th volume of the Cultivator, page 157, Mr. Thorburn says: "I planted this corn on the 10th of May; it had ears fit for boiling the 10th of July!" I planted this corn on the first of May, on a gravel soil, highly manured; and on the tenth of September, I do not think an ear could have been found too hard to boil. So much for the early corn: I will say

to friend Thorburn—you are entirely welcome to the few pennys you have filched from my pocket.

Your constant reader,

SHERMAN BASSETT.

North-East, Dutchess County, Dec. 17, 1839.

Cheap Sheds for Cattle—Cheap Gates—and other Matters.

"A merciful man is merciful to his beast."

EDITORS OF THE CULTIVATOR—I wish your correspondent, "L. A. M." would write his name in full. Not that it would add value to his valuable essays upon sheep husbandry; but a man, possessed of such benevolent feelings towards the brute creation, must be a valuable acquaintance: and one great advantage, derived from such a work as the Cultivator, or your late Genesee Farmer, is, that it adds many valuable acquaintances to our present stock, from which a reciprocal benefit is often derived. Now, sir, if I were passing through Tompkins county, I should no more think of passing the house of "L. A. M." (if I could find him out), than I should think of passing my own brother. Indeed, all the pioneers in agricultural improvement should feel like brothers. Money could not buy the enjoyment I have derived from circumstances which have grown out of my correspondence with agricultural papers. If flattering eulogies can advance one's happiness, the few trifling efforts of mine to be useful, have certainly increased my happiness, in a manner that riches cannot afford; and I hope the happiness of "L. A. M." may be increased, by knowing that there is one who appreciates his merciful feelings towards domestic animals, as shown in his communication in the January number.

The temporary protection to cattle, noticed by "L. A. M." or something similar, is all that can be given in a new settled country like many parts of the West. And here, it often pains me to see such a want of forethought, want of energy, want of mercy towards stock, or else a most lamentable want of "the know how." If it is the want of "know how," I should be happy to bestow knowledge, gratis. I have good, warm stabling for some forty head of cattle and sheep, that did not cost ten dollars. The sides are built with rails laid up in pens about two or three feet wide, supported of course by cross pieces, and the space filled in with old hay, straw, turfs, or small bushes with the leaves on, until the requisite height is attained, and then covered with poles, rails, and coarse hay. Any quantity of hay for covering can be had in a prairie country, for a small amount of labor. A small ditch or bank on the upper side, keeps the water from the bank inside, which, well covered with straw, makes an excellent floor. Such a stable will last, with slight repairs, three or four years; and yet how many expose their whole stock, winter after winter, by the side of a stack on the open prairie, where the north-west wind sometimes blows almost hard enough to take their hides from their backs, were it not for the natural adhesiveness between "skin and bone." Others make vast improvement upon such "tender mercy," and shut them up in a "log stable without chinking or daubing," with two rails crosswise for a door, and through which the wind whistles loud enough to break the heart of a man possessed of a tithe of the kind feelings of "L. A. M." Here, fed upon a scanty allowance of prairie hay, (which, by-the-by, is good or bad, as it is cut and cured), the poor creature drags out a miserable existence. And, do you inquire, do they live? Yes, sometimes: for nature, more provident than their cruel masters, provides them with a coat of hair, that would do honor to "Nick Bradshaw's woolly horse." In the spring, the cows bring forth a poor "runt of a calf"—the owner curses the bad breed of bulls, and the wife wonders why her cows don't give milk like some of her neighbors. The sheep, like the cattle, shed their winter coat, and without the trouble of shearing; furnishing, however, a rare opportunity for the exercise of industry to the "wool gatherers."

Can a man be a good man who so treats his domestic animals? I fear such treatment is not confined to this country. If agricultural schools are ever established, I hope one of the first principles taught, will be that "a merciful man is merciful to his beast."

But enough of cheap stables, sheds, &c. Now, about CHEAP GATES. I write for the poor—the new beginner.

I have some two dozen gates on my place, and not a scrap of iron, except the nails, about them. I can make and hang one cheaper than I can make a set of bars. In fact, I would not have the latter on my farm.

The hanging post of the gate projects two or three inches below the bottom slat, and is rounded off to a point which stands in a hole bored about an inch deep in a block, set nearly even with the surface next to the post which the gate hangs to, or if that post is hewed, a shoulder may be left, in which a hole can be bored with a very short handle auger. The top of the hanging post projects six inches above the upper slat, and is made round, and is kept to its place by a tough hoop, nailed to the gate post. I can make and hang two or three such gates in a day, and the expense is very trifling. When a hinge breaks, it is easily repaired without running to the blacksmith. I consider a gate, "a labor-saving piece of machinery," and I think none would do without them, if they knew how cheap they could have them.

There is another great labor-saving machine, that I am astonished how any farmer can do without. It is the humble wheelbarrow. If this was some new inven-

tion, every one would be running after it—at all events, when he used it.

Forgive me, if I have become tedious, and accept the kind respects of your friend,

SOLON ROBINSON.

Lake Court-House, Ind'a, Jan. 24, 1840.

Cankerworm—Manning's Book of Fruits.

GENTLEMEN—I am very desirous to ascertain, whether you or your correspondents, can inform me of the best mode of protecting fruit trees against the ravages of the cankerworm. It almost literally destroyed our apples here the past season, and threatens, unless some effectual remedy can be found less troublesome and expensive than the tedious process of tarring, to render the raising of apples here hardly worth attempting. Will you or some one of your correspondents give an account of the mode that is esteemed the most effectual, that has hitherto been tried, and also if any new method is suggested, and if by lead or tin troughs, what is the best mode of construction, with what filled, and when put up, &c. It is very desirable to have the information in season, to prevent their attacks the ensuing spring.

Last year, I purchased a copy of "Manning's Book of Fruits," and was very much pleased with it, as the reputation of the author in that department of horticulture, had prepared me to be. The beautiful lithographic figures of fruits with which it is embellished, unlike any thing I have seen heretofore published in this country, add greatly to its value. I was also gratified in noticing, that it was styled No. 1; and that a promise was given, that a supplement would be published at the close of each year. Accordingly, I sent to Boston in the course of last summer, expecting to obtain a No. 2, but learnt to my great disappointment, that no supplement had been published for the season of 1838, and the reason assigned by the bookseller was, that Mr. Sayre's books had superseded Mr. Manning's, or superseded the necessity of publishing the supplement; (for I had it second-hand.) I had indulged hopes, that Mr. Manning's publications would in some measure answer in lieu of a Pomoological Magazine, or a horticultural periodical, in which the description, modes of cultivation, uses, &c., and figures of the best fruits, and especially the new ones continually coming into estimation and cultivation, should form a prominent part. Such a publication I think the country much needs; and the greatly increased attention to the cultivation of good fruit, would create a fair demand for. At present, I know of no such work, though there may be. If there is, I should be glad to be informed. I subscribed for the Horticultural Register, published at Boston, the first year of its publication, and for Hovey's Gardener's Magazine, the second year; and found much the greatest part of both of them, if I mistake not, devoted to the cultivation of flowers; and of the figures, with which one of them, only, was embellished, there was not a single instance of the representation of a fruit. I indulged the hope that Mr. Manning's yearly publications, eminently skilled as he is known to be, on the subject of fruits, would supply this deficiency, until some more frequent periodical should be issued. Should this meet his eye, (as I trust it will,) he will learn that to one person, at least, and I trust to hundreds, and perhaps thousands of others, Mr. Sayre's publications did supersede the want of his. I mean no disparagement to Mr. Sayre's book. I have but just glanced at it, not read it; but I knew the reputation of Mr. Manning, and did not so well know that of Mr. Sayre, and I knew the value of Mr. Manning's first book. May I be permitted to suggest to you, that it might render the Cultivator more acceptable to some persons, valuable as it already is, to insert more frequent notices of the monthly periodicals on the subject of agriculture and horticulture, somewhat in the manner of the newspaper notices of the literary periodicals.

Berlin, Ct. Jan. 20, 1840.

S. MOORE.

Produce of Four Cows.

MESSEURS. GAYLORD & TUCKER—Having seen some statements in your paper of the products of cows, I herewith send you a statement of the product of four cows for the month of June last. They were mostly of the native breed, with a cross of the Devon, wintered in the common manner, and kept wholly on grass at the time, with plenty of water and shade. The first week, forty-six pounds—the second week, forty-six pounds—third week, forty-nine and four ounces; the remaining nine days, sixty-three pounds and eight ounces; making in all two hundred and four pounds and twelve ounces, after using what milk was necessary for two families of nine persons.

NOAH BLAKSLEE.

Perryville, January 4, 1840.

Patent Sausage Machine.

MESSEURS. EDITORS—I have been gratified to discover in the columns of your valuable periodical, a note of Mr. M. W. Weathers, respecting a patent sausage machine of my invention, for which I feel very much obliged to him. But as he failed to make any distinction in the price of those with the stuffing apparatus, and those without, I feel it due to myself and the public to state that those without the stuffers, cost ten dollars, (the amount he annexed,) while those with the stuffers appended, have an additional charge of two dollars.

New Market, Va. Dec. 24, 1840.

A. HENKEL.

Contents of this Number.

Notices—Census of Agriculture in the U. S.—Working and Training Oxen,	37
Work for the Month—The Garden Hot-Beds,	38
Inquiries, Correspondence, &c.—Kendall's Rotary Pump—Meadows, Pastures, &c.—Cocoons—Cooking and Steaming Apparatus—Carpenter's Harvesting Machine—Gourd Seed Corn—Pheasants—Potatoes—Threshing Machine—Windmills—Silk Notices,	39
Alpaca Wool,	39
Highland Agricultural Society—Breeding Sheep—Drainage—Manures—Economy of Fuel,	40
Large Litters of Pigs—Ice Houses—Making Pork—Mutual Insurance on Cows—Green Vegetable Matter for Manure—Experiment with Wheat—New Silk Worms—Items from our Note-Book, No. 3—Grass Seeds—Chevalier Barley—Bees—Sorrel,	42
Tompkins Co. Agricultural and Horticultural Society, Proceedings of the N. Y. State Agricultural Society, Proceedings of the N. Y. State Agricultural Convention, Importance of Water in stock yards, by C. N. Bement, Sore mouth in Sheep, by J. Burrows,	47
Plan of Piggery, by A. B. Allen,	48
Extirpation of Weeds, by D. T.,	48
Sugar Beet—Improved Harrow, by C. Wells,	49
Farm Buildings, by Horace Wells,	49
Curing and Smoking Hams, by T. Robinson,	49
Gypsum—Phosphate of Lime, by U. F. Doubleday, Expense and profit of different Crops, by J. F. Osborne, Roads—Milking—Straw, by Thomas Traveller,	50
Diseases of Sheep, by J. V. H. Clark,	50
Rohan Potatoes, by C. N. Bement,	51
Advantages and Pleasures derived from a study of Natural History, by Farmer C—	51
Experiment in Planting Potatoes, by Sherman Bassett, Cheap Sheds for Cattle—Cheap Gates, and other matters, by Solon Robinson,	52
Cankerworm—Manning's Book of Fruits, by S. Moore, Produce of Four Cows, by Noah Blakslee,	52
Patent Sausage Machine, by A. Henkel,	52

List of Cuts.

Fig. 25. Training Oxen,	38
" 26. Hot-Beds,	39
" 27. Forcing Pump,	47
" 29-31. Plan of Piggery,	48
" 32. Improved Harrow,	49
" 32. Plan of Barn, &c.	50

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The previous volumes—the first four at 50 cents each, and vols. 5 and 6, at \$1.00 each—can be sent to new subscribers at newspaper postage, and they are also for sale by our agents in the principal cities.

ARTICLES.	PRICE CURRENT.			
	New-York, Feb. 22.	Boston, Feb. 20.	Philadelphia, Feb. 22.	Baltimore, Feb. 22.
Beans, white, per bushel,	1 50	1 50	1 50	1 50
Beef, per cwt.	6 50	6 50	6 50	6 50
Bacon, western, per lb.	0 09	0 09	0 09	0 09
Butter, fresh, per lb.	0 15	0 15	0 15	0 15
Cheese, per lb.	0 08	0 08	0 08	0 08
Cotton, best, per lb.	0 07	0 07	0 07	0 07
Flour, best, per lb.	1 10	1 10	1 10	1 10
GRAIN—Wheat, per bushel,	0 70	0 70	0 70	0 70
Rye, per bushel,	0 56	0 56	0 56	0 56
Oats, per bushel,	0 30	0 30	0 30	0 30
Corn, per bushel,	0 50	0 50	0 50	0 50
Hams, pork, per cwt.	2 75	2 75	2 75	2 75
Pork, in hog, per cwt.	2 50	2 50	2 50	2 50
SEEDS—Red Clover, per bushel,	0 55	0 55	0 55	0 55
Timothy, per bushel,	0 50	0 50	0 50	0 50
Wool—Saxony, fleeco, per lb.	0 50	0 50	0 50	0 50
Merino, per lb.	0 45	0 45	0 45	0 45
and common, per lb.	0 30	0 30	0 30	0 30
Sheep, per head,	2 00	2 00	2 00	2 00
Cows and Calves, each,	25 00	25 00	25 00	25 00

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 CHARLES VAN BENTHUYSEN,
 ALBANY, N. Y.